NEW ENGLAND FARMER

DEVOTED TO AGRICULTURE AND ITS KINDRED ARTS AND SCIENCES.

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GRASSES AND THE SMALL GRAINS.

ALL FLESH IS GRASS. Never were words more true, or more full of meaning, than those of the Prophet Isaiah, when he said, "All flesh is grass."—These four words, simple and unimportant as they at first seem, lead to a train of thought and investigation that results in the conviction that all flesh is literally grass; that this is the prime basis upon which rests all our agricultural operations, and that without it, civilization, nay, life itself, could not be sustained.

Cotton is a civilizer, and, more than all missionary effort, is introducing the comforts of artificial life among the rude and untutored in every part of the world. Like the introduction of *stoves* and *window glass*, it has shed new blessings on the race; only in its importance it far transcends them both. Deprived of the glass, the stove, the cotton, and even of wool, a limited number might still supply a few of the first physical requirements, and live. But not so with grass. Strike that out, and all animated existence dies without it: first the insect race, then the graminivorous, or grass-eating animals, then the carnivorous, or flesh-eating, and then, in the dismal train, man himself. And as if to stamp the grasses with the seal of usefulness, in every way, what a noble and exalted purpose they discharge in covering the earth with unnumbered forms of grace and beauty of coloring. How beautifully they adorn the surface, and "thus make manifest to us, in their very existence, and in all their thousand wonders, the Almighty Creator of heaven and earth."

And yet the grass crop, so important in every respect, has not received an equal attention with the animals that are to be supported by it.

The grasses comprise a numerous family, some four thousand varieties having been noticed, scattered over various parts of the globe; but among these, only some twenty kinds, which will in one summer produce rich food, independent of the dry heat and rigid cold of our climate, have been chosen,—and some three, four, or perhaps half a dozen of these are under general cultivation among us. The grains, as we term them, our oats, rye, barley, wheat, and even Indian corn, are as much grass, as the meadow cat's-tail or red-top. Their seeds are larger than those of the herds-grass, and therefore, more conveniently appropriated to our use, so we distinguish them from the other grasses by a specific name, and at length are apt to forget that they belong to the same genus.

"Grasses," said a distinguished philosopher, "are Nature's first care. They are the most general, extensive, and hardy of the earth's productions. They are nearly of endless variety, and adapted to almost every climate. They endure the trampling of men and beasts, the browsing of cattle, the parching droughts of summer, and the snows and ice of winter, and spring into new and often more vigorous life, under influences which to other plants would prove destructive.

"On mountain tops, where the warmth of the summer's sun is not sufficient to ripen their seeds, they live by their roots, and with thick, clustering leaves protect these roots, producing thereby the densest and most beautiful verdure. And it is reported by one writer, that, for the preservation of the grasses in those localities where the ripening of their seeds is important, the wild beasts, guided by a remarkable instinct, leave untouched the stems that support the flowers." The manifestation of such an instinct would not be more wonder-

ful, or command our admiration in any greater degree than that exhibited in many other things,—yet a more simple and natural explanation of the fact would be, that these flowers possess a flavor, of some pungent sort, which the animal feeding does not relish.

We have said that cotton is a civilizer—it would, indeed, be difficult to estimate or appreciate, the blessings it confers on mankind. It not only comprises the clothing of vast numbers, some of whom would wander naked without it, but it enters into nearly all the domestic articles we use. It shows the fair page of the book we read, or gives us the paper on which we write; makes a part of the bed on which we sleep or the carpet on which we tread; is a part of the stock used by the tailor, the bookbinder, cabinet and shoe-maker and carpenter. It protects the hay of the farmer, encloses his wheat, flour and other products in sacks, and gives wings to commerce to waft them to the waiting nations of the world! Cotton is, also, a staple article in our manufactories, and gives employment to thousands of the sons and daughters of New England. It does not only civilize—it has refined and elevated civilization itself, and given it a thousand forms of the beautiful while it has supplied our wants; it is the *utile dulci*, "the useful with the pleasant," and its era of general introduction will be marked in the annals of the world. Unlike the grasses, however, it does not flourish except under certain degrees of temperature, beyond whose limits it is cultivated in vain.

Rice is another article of great value, and like cotton, enters largely into our exports, amounting, sometimes, to nearly four millions of dollars in a single year. It is admirably adapted as sustenance to the human system, affording a healthful proportion of nutritive matter to the bulk required. It may be easily and long preserved, and annually feeds its millions, many of whom eat but little beside. But, like cotton, this article can never become one of general culture, as it requires a high temperature throughout its growth, and to be grown on alluvial soils, not only irrigated, but flooded for periods of considerable length.

Until lately, these two articles, cotton and rice, have been prominent in our tables of exports, and the nation believed that they were the *chief products* of our agricultural industry; that they gave us credit and character abroad, and fed us, or propelled the looms in our manufacturing districts at home. We mention these, particularly, because the political economist seems never to have investigated and compared some other leading crops with them, and to afford opportunity for a partial comparison now.

On reference to the last Census we find the hay crop of the United States for 1840, set down at 10,248,108 tons; in 1850, it was 14,000,000 tons; in 1855, it would undoubtedly reach 15,000,000 tons, and at ten dollars a ton, would be $150,000,000. The cotton crop of 1853 is valued at $128,000,000. The hay crop of Massachusetts in 1850, at $15 a ton, amounted to nearly ten millions of dollars, while the cotton crop of South Carolina at 4 cts. a pound, was less than two and a half million. We believe the corn and grass crops of Massachusetts will equal in value any two leading crops of any of the Southern States, leaving our vast mechanical, manufacturing and artistic products out of the question, in an estimate of the results of our industrial pursuits.

Compared with other crops, very little has been written or said in relation to the grass crop. We know not their number or names, or but that among those indigenous to our soils there may be those far better than our herds-grass, red-top, or clovers. In England, there are two hundred and fifteen varieties well known, named, and cultivated. With us a dozen varieties, perhaps, would exhaust our list; and yet some think there is no more room for investigation and for more accurate knowledge of the things around us; that hard hand-work is better and more profitable than seeking after new things by head-work.

Who knows but that in our fields, or on the wayside, trampled on and despised of men, or, perhaps all unknown, there is an unobtrusive plant, springing up, blossoming and struggling from year to year for notice and for a firmer hold,—but as often sought and eagerly fed off by the grazing animal who only knows how to appreciate it?

Like the potato, as large as walnuts in its native state, or the peach, bitter and dry and offensive, or the pear, with its hard, woody flesh, or the apple tree, with its thorns, so this humble plant may only want the fostering care of man to outvie the beautiful purple bloom of the herds-grass heads, or the carmine of the gracefully tasselled red-top,—and yield in nutritive matter more than either of these or the richest clovers.

Why did Infinite Wisdom create 4,000 varieties of grasses? Was it that man should avail himself of but one, or a dozen of these varieties, and the others remain unsought, untasted and unappropriated? Or did He expect that the reason with which he is endowed, and the intelligence which he might gain, would lead to investigation and a choice of these numerous varieties? Is there not room then, for study and research? "Who shall estimate the number of our grasses? Who shall classify them? And—what is a far more important question—who shall test them in the crucible of science, so that the practical farmer may, with certainty, avail himself of the advantages which will result from the cultivation of the best varieties?"

The two grasses familiarly known, and generally cultivated in Massachusetts, are timothy (so called

from its introduction into Maryland by the Rev. Timothy Hanson) and the red-top, and the red and white clover or honey-suckle. There are the meadow fox-tail, the rough cocks foot, or orchard grass, tall fescue, rye grass, &c., but few persons, however, are able to apply the name with certainty to the right variety, and the terms are seldom used.

Next to the adoption of the best varieties, is the importance of a proper cultivation of them. The average product at present is probably about one ton per acre. But this is not a paying crop—and no good farmer will cease his efforts until he adds half a ton to this average, or doubles it. When the expense of reclaiming, plowing, manuring and seeding down is taken into account, it will be seen that one ton brings little or no profit, and thus there occurs a waste of energy, of time, and interest invested in the land. In order to accomplish the result, three things must be regarded.

1. Thorough draining.
2. Deeper plowing.
3. Higher manuring.

Without the first, as a basis to start upon, both of the others will, in a degree, fail to accomplish the expected purpose. When this *is* effected, there will be no standing water to repulse the roots, and the *deep plowing* will enable them to roam at pleasure in search of agreeable locality or food. Here, then, is the superstructure; now add the fertilizing agents, subjecting the land to hoed crops, as far as possible, for two or three years before devoting it to grass, feeding it liberally just before it receives the seed, and then you have a basis from which to gather profitable crops through all time, so long as the same process is observed. It is simply acting on the consistent rule, "Feed your crops and they will feed you." The food must not only be there, but under such conditions that they can reach and appropriate it. If it is in cold spring water, they will not touch it; or if too near the surface, where the sun will smite them by day, or cold winds or colder vapors chill them by night, they will have no appetite to feed on your proffered bounty. But give them a mellow seed bed, mingled with fermenting vegetable and animal matters, through which the sun in heaven shall send his cheering beams, and the blessed showers shall percolate and find their gladsome way, fructifying every little rootlet with their moisture, and then you shall have, not only your two tons, but often three to the acre! Under these conditions, heat or cold, flood or drought, will have little influence on a grass crop; it becomes one of great certainty, and of generous profit.

Where grass is principally desired, and the land is not wanted for other crops, a practice is now observed of plowing the sward in August or September, and seeding at once. If the season is favorable as to moisture, this course operates well. The young grass comes readily, grows rapidly, and gets such root-hold as to withstand the effects of frost, unless it is very sever. In the succeeding summer such fields often yield more than a ton per acre, and the second summer, if the operation was all right, from two to three tons. We have accomplished this in our own practice.

A more common practice is, to plow in the spring, manure and sow grass seed with about three bushels of oats to the acre. This course frequently operates well, but in many cases, failure is the result. The oats sometimes spring into a rapid growth, shading, and taking entire possession of the ground and utterly precluding the tender grass plants from any participation in the rays of the sun, and with scarcely a place whereon to stand. They gain little in root, and but a trifle in height, are slender, succulent and weak, and when the oat crop is cut, and the sun blazes in upon their tender heads, they quietly lie down and die, just as any sensible plant would be expected to, under such treatment.

Barley is a better grain to seed down with than oats, because it does not send out so many offshoots or tiller as much as oats.

Another course, and one for which we have much partiality, is to hoe the corn crop flat, and at the third hoeing in August, sow the grass seed, and rake it in. The process is not a slow or disagreeable one; indeed, I think it can be done at much less cost than some other modes of seeding to grass. In this position, the young plants have good opportunities for a fair and pleasant start in the world. The ground is mellow and moist, and protected from high wind by the corn, so that when the tiny seed starts and the tender germ takes hold of a neighboring morsel of rich muck or other fertilizing matter, it is not torn rudely away by the wind, but left to extract its supplies and grow fat upon them. The corn also breaks the direct rays of the sun from the young grass, but leaves sufficient heat to pass to promote their growth. When the sun becomes less vertical and intense, the corn is usually topped, and the rays are more freely admitted, so that without purposely favoring the new crop, the operations on the old one, or corn, seem exactly to suit its wants. The corn-stalks, when gathered, should be cut close to the ground, or with a hatchet may be cut a little below, so as to be entirely out of the way of the scythe at the first mowing.

On the subject of seeding and of harvesting, some thoughts occur, but we should be exceeding reasonable limits to speak of them now.

We have said nothing of the grasses for our pastures—and this is a subject, too, which intimately concerns us all. No branch of our husbandry so much requires consideration as this, and we trust it will be the subject of your earnest inquiry and investigation.

"There are many among us who seem to think that the earth is possessed of a constitution so strong, so stout, and so healthy, that no extreme of bad usage can affect it injuriously; but Time, the great instructor, is demonstrating our folly, and warning us to change our modes of farming. While the husbandman carries forward his works of agricultural improvement, he must not forget the injunction, 'Let the earth bring forth grass.' If, disregarding this mandate, he shall continue to neglect the investigation and cultivation of grasses, the annual depreciation of his crops of corn, and other grains, will ultimately qualify him to appreciate fully the force of the Belgian maxim, '*No grass, no stock;—no stock, no manure;—no manure, no crops.*'"

Let us exhort you, then, to a more earnest study of the cultivation of the grasses—their names, their qualities, and the best modes of cultivation. Like rice or the potato for man, so good high-land grass is adapted to all herbivorous animals, and as a general food, will sustain them better than any other. And as so large a proportion of the food upon which we ourselves subsist comes from the grasses, and from the animals which they sustain, we can no longer wonder at another declaration of the same prophet whom we quoted in the beginning, that "Surely the people is grass."

For the New England Farmer.

LIQUID MANURE.

MR. EDITOR:—In your paper of the 12th inst., I read with great pleasure an article on this subject, by Professor J. A. Nash, in which he describes very comprehensively the mode of preparing and distributing liquid manure by some of the first farmers in England, and the success attending it. As the system thus described, however, is on too gigantic a scale for general introduction into this country, I shall here state in as few words as possible, my own experience in such matters.

It has long been a matter of surprise to me, that farmers in this section of the country do not avail themselves more generally of the many advantages to be derived from the proper application of liquid fertilizers, especially as regards the top-dressing of grass lands; as more prodigal waste has taken place in the application of solid manure for that purpose, than in all the other branches of agriculture combined. It is easy to perceive, that top-dressing grass with barn manure, either clear or composted, or any solid material whatever, in common use for that purpose, is less or more dependent on the quantity of rain that may happen to fall immediately after the dressing is put on, in order to produce the desired effect. If that operation is succeeded by very dry weather, little or no benefit is derived from it, and the material and also the labor are lost; and even when heavy rains chance to fall immediately after the process has been completed, only about 20 per cent. of the fertilizing properties of the manure go to nourish the grass; the residue being wasted in atmospheric evaporation. Proof of this assertion is always at hand, if people would only take the trouble to weigh a load of the solid material intended for top-dressing, in the morning of a dry day before being spread, then at night, after being exposed to the sun, and for only 10 or 12 hours, and it will be found that the diminution of weight is nearly one-half; the liquid and only fertilizing properties of the mass being nearly all dissipated in that short period. Should the drought continue but for a few days longer, not one particle of the fertilizing properties will remain to perform the functions for which they were intended. On the other hand, liquid preparations go immediately to the roots of the grass, and produce almost instantaneous and salutary effects; provided the preparation has been properly fermented, and is of the requisite strength. Liquid manure can be provided on almost every farm, in ample quantities, at one-third the expense of solid, and when properly prepared and applied, its effects are certain; whereas the former is but a game at chance at the best, as far, at least, as top-dressing grass and manuring fruit trees are concerned. Not one practical farmer out of a hundred has given due consideration to this important subject; and it is almost impossible to suppress laughter at the absurdity of many of them purchasing stable manure in Boston and other cities at a high price, and carrying it, sometimes, 20 miles into the country, after it has been denuded of nearly every particle of ammonia and other fertilizing properties, by over-heating in the cellars in which it is collected; while the invaluable liquids in abundance on their own farms are completely neglected; their only use being to produce pestilential effluvia for the comfort of the family during the summer months!

To farmers on a small scale who have not the means to provide themselves with that inestimable convenience of a water-tight cellar under their barns, a simple and cheap substitute is easily provided. That substitute is nothing more than a tank or cesspool, built under ground, of suitable capacity in proportion to the extent of the farm, placed in the most convenient situation for receiving the whole liquid refuse of the dwelling-house, the urine of every description from the barn, and also water from the house pump to dilute the liquor and prevent smell when required. The tank may be constructed of stone, or brick, or even wood, as being the cheapest in the outset. Spruce plank is good enough for the purpose, and comes cheaper than any other material; and, if bedded in clay to prevent it from decay on the outside, the liquor will preserve it in the inside for generations to come. A tank 12 by 6 feet, and 4 feet deep, could be built of this wood, for about $20, and will hold over 1728 gallons; which is sufficient during the season to supply liquid in abundance to top-dress from 12 to 20 acres of grass land, and increase the quantity of hay in a most astonishing manner. It should have a close cover for the top, part of which, however, should be movable at pleasure, with a view to cleaning out the bottom when required; and in the permanent part a hole should be left to admit a wooden pump, which is essential for discharging the liquid into the distribution cart. Also an aperture for the discharge of the back-house of the family which should be invariably placed right above the cess-pool.

A cart for the distribution of the liquid can be made in different ways. Those used in many parts of Europe for that purpose, are on the same prin-

ciple, and similar in construction, to those used in this country for watering the streets in cities, during dry weather in summer; but one of much easier and simpler construction may answer all useful purposes, to those of small means. A large band fixed on a pair of old wheels, with a spire for oxen or shafts for a horse attached to the axle, is all that is wanted; or the barrel may be placed in an ox or horse cast, as convenience may dictate, with a spout or box behind pierced with many holes in the bottom for the even distribution of the liquid on the grass. With such a cart one man can manure from 4 to 6 acres in a day, which is a great saving in the expense of labor compared with the common practice of top-dressing with composted manure, a topic worthy of some consideration in this frugal land.

In order to derive all the advantages from this mode of manuring grass land, special attention must be paid to the proper fermentation of the liquid before application, as properly fermented, and unfermented liquid, may be compared to strong manure, and no manure at all. Every one at all conversant with the making of wine, beer and cider knows that these liquors require to undergo a certain degree of fermentation before they impart that invigorating and stimulating effect on those that drink them, for which alone their value in proportion to their relative strength is estimated. In like manner does liquid manure operate in all its stages of fermentation; as it has to undergo several chemical changes during that process before it becomes fit food for plants. The next important consideration connected with this undertaking after the fermentation has subsided, is how to fix the ammonia and other volatile matter that the liquid may contain; and how to ascertain when they are fixed. Many substances may be used with good effect for fixing these volatile principles in liquid manure. Any ingredient of an acid nature, if added in sufficient quantity to decomposing urine, fixes and neutralizes the ammonia as it is evolved from the urea and the other nitrogenous bodies of urine; and in consequence very much enriches the ultimate liquid manure. Water, as Professor Nash says, is an excellent absorbent of ammonia, and is in all cases a sufficient deodorizer, provided enough of it is used. This I have invariably found to be correct; and would, therefore, advise a certain quantity to be pumped into the tank every other day in proportion to the amount of other matter it may contain. This will completely subdue any offensive odor that may arise from the fermentation of the liquid, and add considerably to the bulk of the article. Should this course be objected to on account of such quantities of water making the preparation too weak, I would say add guano, night-soil, cow dung, or even green succulent vegetables and many kinds of weeds from the garden and field, to thicken the mass, and bring it up to the proper strength. Before application I invariably use a small quantity of diluted sulphuric acid as a deodorizer and neutralizer of the ammonia; and the surest and safest criterion to judge by, when the liquid is fit for using, is its being destitute of any disagreeable odor when stirred about with a stick from the bottom of the tank. That shows conclusively that the whole volatile principles of the manure are fixed, and neutralized, and prepared for application to the grass or other crops. Any one may see that even water alone put upon grass while in a growing state, accelerates its growth, often in a very wonderful degree; and how much more may not be reasonably expected, from such a combination of the known elements of fertility, as such liquids contain. With a plentiful supply of such liquid preparations, which are within the reach of every cultivator of the soil, from the small garden to the extensive farm, there is nothing to prevent an increase of the crops of hay and fruit four-fold, at least, if people interested in such matters would give it a fair trial.

I have been a practical cultivator of the soil for over fifty years, in different parts of the world, and it is only within the last five years that I learned the secret of properly preparing and applying liquid manure to growing crops; and since then, I have seen two, three, and even four crops of strong grass cut from the same ground in one season by the copious application of liquid preparations; and for that valuable discovery I have to thank Professor Liebeg's familiar letters on chemistry; although deadly opposed to book farming previous to that date. T. C.

Beverly, West Beach, Jan. 16, 1856.

Remarks.—We are under obligations to the writer of this article—his suggestions and descriptions will lead many persons to adopt a system for preserving the best portion of the manures of the farm. Will he favor us with an interview?

AGRICULTURE IN MAINE.

Some of the farmers in Maine had a meeting at the State House, on Friday evening, Jan. 18, and from the report given in the *Maine Farmer*, it must have been an interesting and profitable one. There was quite a free interchange of opinions, and among others, the discussion evolved the following:—

"Mr. Carr, of Bangor, said, "we did not do enough in farming; if it were profitable on a small scale, it would, if rightly pursued, be more profitable on a larger scale.

If we could demonstrate this, and convince our young men of it, it would induce them to stay here instead of going West, and a great object would be attained.

Mr. Parlin, of Winthrop, being called upon, stated that he was a mechanic, but farmed it on a small scale, he had to hire his labor, he kept a strict account with his farm, and finds, that this year, after paying all expenses, he has $450 for overseeing the business.

Mr. Butman said he had been a farmer 50 years, labored with his hands, had a sick wife, no sons—no daughters, has had to hire help, and yet had made money by farming; when he bought where he now lives, found six acres of swamp land near his buildings,—not wanting a frog pond there he commenced clearing it, and finally got it in a condition to plow, plowed it into beds, made the dead furrow pretty deep, and then set a man to dig it deeper, on the 13th of June following, hauled on 100 loads of manure and sowed to oats and grass—had 65 bushels of oats per acre, which he sold for 55 cts. per bushel; this paid all the expenses except for manure, then laid it down, and has mowed three tons to the acre; has mowed it ever since, and has cut 120 tons of hay from it during this time. The whole of the labor cost $28 to the acre.

Mr. Crane did not agree with Mr. Goodale's reasoning; he had been left an orphan, without property, and when twenty-one years of age he had not $5 worth of property. He had done nothing but farming, and was now out of debt, and the assessors rated him $5,000, the whole made by farming, and by nothing else.

Mr. Goodale said, one reason why farming is not more profitable is, because the farmer does not use capital enough. In addition to his fixed capital of farm, fences, buildings, &c., he should use working or circulating capital.

What condition would a manufacturer be in, if, after his mill was ready, he had no working capital?"

At this stage of the meeting, Prof. Boody was called on, who said he had been in the western country, and from observations and experiments he had made there, he would say that a young man in Maine need not go to the West for fear there was no profit in farming in Maine. He had no doubt whatever, that if the farmers here would cultivate less land, feed it better, and pulverize it well, it would be a profitable business.

"Mr. French said, twenty-five years ago he went into the woods with a wife and two children, and had but two hundred dollars in the world, bought a farm on mortgage, family increased to nine children, when his son was sixteen and began to be help to him, he died, his buildings were soon after all burnt, the weevil took his wheat and the rot his potatoes; never hired help excepting in haying.

He now had a farm, free from debt, had a comfortable home, had educated 9 children with common school education, had plenty to eat and set before his friends, and he left it to the meeting to say whether farming was profitable or not.

Mr. Hersey, from Lincoln, stated that he did some lumbering business, but farming was his principal business; usually raises 1000 bushels of grain of different kinds, per year, this last year raised 1800 bushels,—800 on burnt and 1000 on plowed land; as near as he can judge his grain costs about one-half what it would bring in market.

Mr. Morrow, of Searsmont, said, the question is this,—is farming profitable, compared with other callings? It is the primary business of the State, all depend upon it. The idea is abroad among our young men that farming is not profitable in Maine. This idea is making against the best interests of the State, it is injuring the community; now if any thing can be done to correct this belief by your organization or by the Legislature, it should be done.

We will suppose a young man, when of age, hires out by the month until he has earned $1200 or $1500. The question comes up to him, is farming profitable? How shall he invest this to obtain a living? You can now hardly procure a respectable farm for $1500, but he nevertheless buys a farm for $1200, and uses $300 to stock it with tools and animals. Now can he sustain himself, raise a family, and keep them in comfortable circumstances through life? This is the question—the sentiment is abroad that he cannot, and hence the young men rush into trade, go to California, into the professions, &c. &c. Now he believes that farming can be made profitable; but the farmer must have his farm and stock, and a little surplus capital, and he can then, by proper management, make it profitable."

Many other excellent things were said during the evening, and will have an influence to call out more to attend the meetings, and to turn attention to the subject of higher modes of cultivation. Our object, mainly, in these quotations, is to show the opinions of the speakers with regard to *farming as a profitable avocation.*

For the New England Farmer.

FARM WORK IN THE WINTER.

MR. EDITOR:—The subject of farm work, generally, is one upon which much has been said with profit, and much more needs to be said, particularly by those who can talk from experience. Some farmers can find abundance of work on the farm in the winter, while others can find but little that can be done to a satisfactory profit. Let the result of every one's experience be given through the agricultural press, and at length the experience of each will become the wisdom of all, and a true system be reached.

The New York *Tribune* recommends farm work in winter, and I have great respect for the teachings of the *Tribune*. My friend, L. Durand, of Connecticut, thinks that but little farm work can be done in winter. Allow me, though a plain workman, to give a specimen of my experience, from a region where cold weather and abundance of snow are the usual accompaniments of winter. At the falling of the snow I hauled up a year's supply of wood, and then commenced hauling muck from the muck bed, and shall continue in the business as long as the sleighing shall last, which will probably be until about the middle of March. I find that with one horse, I can average two cords of muck each day delivered one mile from the muck bed.

The muck on the bed is eight to ten feet deep. I remove the snow, and the frozen muck to the depth of about a foot, is cut up and removed from the surface of a pit five feet wide and ten feet long, and then there is no difficulty in shovelling the muck into the box on the sled.

The advantages of getting out the muck in the winter are, that any part of the muck bed can be reached, which cannot be done in the summer. There is a decided advantage in hauling it upon the snow, and when there are no pressing calls for labor elsewhere on the farm. The muck, load by load, gets well exposed to the action of frost, and some advantage is gained in composting it, partially, at least, with stable dung and night soil, so that in the spring I have only to shovel it over once, as it thaws, and it is ready to be used in the drill. There is also an advantage in spreading the muck on the snow as a top dressing for grass lands.

The muck which I hauled out last winter was used last spring, and my crops were highly satisfactory and profitable, so that this is not hypothesis, but experiment and practice.

I might say much on the subject of vegetable muck, (not swamp mud) as a manure, but that matter is perhaps too well understood to require this. My own experience has proved it to be highly valuable.

From this brief statement, I think it must be confirmed that, for me, there is work to be done to advantage in the winter. MICHAEL.

Bangor, Feb., 1856.

For the New England Farmer.

BRAKES—SAWDUST—MANURES.

MR. EDITOR:—Acting upon the suggestions in your paper, I have "housed" all my manure. I bed all my cattle liberally with brakes and sawdust. I allow my bedding to remain in the stables one week. By this process, the brakes are pulverized, and with the sawdust, become perfectly saturated. The knowing ones tell me my manure will be burnt. What is your opinion? (*a.*) How shall I manage in the spring when I cart it out? (*b.*) Permit me to suggest to the readers of your paper the economy of cutting brakes. I put under cover the first year about seven tons of brakes; with my oat straw, and a few roots, and occasionally a little meal, I have kept to the present time nine head of cattle. In many pastures, grass grows with the brake; the cattle will not eat this in summer, but when made into hay and fed out in winter, they readily eat both grass and brake. By yearly mowing, the cane brake gives way to a finer quality, and in time, the pasture becomes entirely rid of them.

Yours truly, "INQUIRER."

Buckland, February 7th, 1856.

REMARKS.—(*a.*) When there is much coarse vegetable matter there *is* danger of *fire-fang*, as it is called. To prevent this, a good supply of peat muck should be stored up and mingled with the manure; but if this, or loam, is not at hand, the heap must be watched. As long as it is kept dry, there will be little danger. (*b.*) A few days before using it, throw it up lightly, wet it, and stick two or three bean poles through it. When you find, upon drawing one of these poles out, that the heap is warmed to blood heat and that it has remained at about that temperature a few days, it will be ready for use; and if it has been covered with loam or muck, will have retained nearly all its fertilizing qualities Your good example ought to be imitated in cutting the brakes.

For the New England Farmer.

WINTER IN VERMONT.

MR. FARMER:—As so much is said of snow and cold weather from Maine to Louisiana, we fear our friends abroad may suppose that in this hyperborean region we are hopelessly frozen up and buried in snow. To quiet such apprehensions, I will give you a short sketch of our winter.

We had snow early in December, and since, frequent additions, so that now it is full 2½ feet in forests. December was a fine winter month, no extreme cold. January was uniformly cold; 12.09° colder than 1855—8.55° colder than the mean of the last 18 years, but warmer than 1840 or 1844. The mean temperature of three observations daily, —sunrise, 1 to 9 o'clock, P. M.,—has been 13 9°. The lowest points at sunrise was 5th, 13°; 7th, 10°; 9th, 4°; 20th, 10°; 22d, 6°; 25th, 5°; 26th, 6°; making seven days when the mercury has stood below zero.

You can judge of our snow drifts when I tell you that the trains on the Central Railroad, from Windsor over Connecticut river to Burlington on Lake Champlain, have never lost a trip, nor have they ever been delayed, so as to be more than fifteen minutes behind, making time on this road sometimes late, caused by non-arrival of trains on connecting roads. From Burlington to Rouse's Point, (57 miles) lat. 45°, the trains have not been detained one minute by snow. We have had near two months of uninterrupted good sleighing, and a fair prospect of a month more.

If you are buried in snow in Boston, I advise you to migrate to Vermont. Here you would at all times have found wide paths on our side-walks about town, made by snow-plows, except in the *business* parts; and no day so cold but you might have seen our young ladies walking a mile or more, "just for the fun of it;" and—as to sleigh-rides—in the city you can only imagine what sleigh-riding is.

C. GOODRICH.

Burlington, Feb. 11.

For the New England Farmer.

RURAL ECONOMY OF THE BRITISH ISLES—No. 3.

CATTLE.

I shall now proceed to show how rich English agriculture is in cattle as well as sheep. England possesses the finest milch cow race in those beautiful, intelligent, gentle-looking animals, which go under the name of Alderney, and in the Scotch Ayrshire—that charming race of cows, whose graceful forms, speckled hides, quiet dispositions, large udders, and rich luxuriant supply of milk, realize the idea of pastoral life. She possesses also, the short-horned Durhams—animals which may be fattened as early as two years old, and attain, at that age, a weight which no other breed can arrive at so soon. Their heads, legs and bones, have been reduced to such small proportions, and the more fleshy parts of the body so largely developed, that nearly three-fourths of their weight is meat.

After the Durham short-horn, which, among cattle, is what the Dishley breed is among sheep, come the Hereford and Devon breeds, which, in their turn may be compared to the Southdowns and Cheviots. The Hereford breed follows closely upon the Durham, and is even more generally sought after, as offering almost an equal precocity, and the same aptitude for fattening, but with greater hardiness. The county of Hereford, from which it comes, lies at the foot of the Welsh mountains, and possesses a soil of but indifferent fertility.

The English farmer looks upon cattle, with the instinctive calculation, which distinguishes his class, and argues that there are three descriptions of produce, which man may demand from cattle, besides the manures the hide and the offal—namely, their labor, their milk and their flesh. Of these, he deems their labor the least profitable, and therefore looks chiefly to their meat and their milk.

He demands of his milch cows the greatest supply of milk, and a good Ayrshire cow will give four thousand quarts of milk in the year; and it is reckoned that the three million cows in Great Britain produce three thousand millions quarts in a year—an average of a thousand quarts for each cow. The French cows, many of which are worked, do not average, as a whole, over five hundred quarts a head. To get the greatest quantity of milk from the cow, the English farmer has studied and labored, till he has spread over his fields the finest herds of milch cows in the world.

It appears, at first sight, that the work our cattle are made to go through with, would have but little influence upon the return they give in meat. It might be supposed that this work, since it turned the life of the animal to account, admitted of a cheaper production of meat. But not so argues the English farmer. He believes that habitual labor causes animals to become hardy, vigorous and slow, to eat much and fatten little, to increase in bony structure, make little available flesh and that slowly; that habitual inaction on the contrary, produces a soft, lazy race, which fatten early, assume rotundity of form and fleshiness, and on an equal amount of food, give a better product of butcher meat. The English farmer argues further that where labor is the first consideration, the animal is not killed till it has finished its office; but on the other hand, where meat only is sought, it is slaughtered at that period when it gives most, and that when the breed is precocious, this period comes early—and that thus, by raising cattle for slaughter, he gets the best return for what they consume. The English farmer's reasoning on this matter, is, I have no doubt, right, when he possesses a precocious breed of cattle like Durham or improved Hereford. And this reasoning would be true, in any country possessing similar breeds of cattle, unless the profit of working oxen was greater than it is in England. The results of British agriculture in raising cattle are that Great Britain feeds eight millions of horned cattle—slaughters two millions annually, from which she realizes a hundred millions of dollars for meat alone.

The other species of domestic animals are horses and pigs. As regards horses, the pre-eminence of the English breeders has long been recognized. As for the race-horse and his rival, the hunter, everybody knows by what a combination of effort the English have succeeded in producing and keeping up these superior breeds. They are productions of human industry, real works of art, obtained at a great expense, and designed to gratify a national passion. A fine horse constitutes with everybody the ideal of fashionable life; it is the first dream of the young girl, as it is the latest pleasure of the aged man of business. But the English have breeds for draught, which are equally valuable. Such, for example, are the plow horses, the best of which, perhaps, come from Suffolk. I have already stated that tillage with horses has been generally substituted by the English for that of oxen; they thought, and with reason, that the quicker action of the horse made its work more productive, and that an idle life made the meat of the ox more productive. But they have done more; they have substituted horses for men wherever manual labor—the most expensive of all—could be replaced by a machine set in motion by horse-power. The brewers' horses and those used in coal wagons are celebrated for their strength and bulk. The best fetch very high prices. It is the same with the carriage horses; the breed of Cleveland bays from Yorkshire is reckoned one of the most perfect that exists for average work.

English pigs on an average are not very large; but they are killed young, exemplifying the great principle of precocity contended for by Bakewell, and applied to all kinds of animals destined for food. They are all of breeds which fatten rapidly, and whose shapes have been improved for a lengthened period.

The English rear few fowls, the dampness of their climate being unsuitable for it, and spite of the efforts of wealthy amateurs, the occupation has hitherto obtained but little favor; whereas in France the annual production of eggs alone is estimated at twenty millions of dollars, and that of all kinds of fowls at an equal sum.

Such are the advantages obtained by British agriculture, from the best breeds and the best management of them, in rearing domestic animals.

I must next show what crops support this animal production of England; for crops are both the causes and consequences of a great production of domestic animals. M.

For the New England Farmer.

THE COUNTY OF ORLEANS, VERMONT.

MR. EDITOR:—I improve the opportunity to make a few remarks with regard to this part of Vermont, which may be of some interest to your numerous readers in other parts of the country.

First, with reference to our winters in particular, and our climate in general. We are frequently amused by the remarks we meet with in one of our newspapers from Cincinnati, Ohio. People there seem to think that the unfortunate people of New England, (Vermont in particular,) live under snow-drifts through a terrible winter, or that spring thaws them from the heart of an ice mountain,—where life is preserved by a miracle. Even the good people of your State seem inclined to pity us in the northern part of Vermont, on account of the terrible cold storms and snows of our winters. Such used to receive my assertions, while I resided in Massachusetts, that the winters in northern Vermont, are less uncomfortable than they are in Massachusetts, almost with incredulity. But, as I have spent more than thirty years of my life in two of the northern counties of the State, and some ten or twelve years in Massachusetts, I think I can make a correct comparison. We know here very little of the searching winds, the deep falls of snow, and the terrible storms to which the eastern part of your State is subject.

During the time in which the great storms prevailed on the 6th and 13th of the present month, in southern New England, *we*, in this county had no idea of anything unusual on the coast. My parishioners are scattered over a considerable extent, but the meetings for prayer, on those Saturday evenings, and the congregations on those Sabbaths, were not characterized by any considerable diminution of numbers in attendance. I reside a mile from our meeting-house, and did not experience the slightest inconvenience in attending with my family. During more than fifteen years, my meeting-house has never failed but once of being open for worship on the Lord's day, and then worship was attended in a smaller room. The *Salem Register*, of a late date, speaks thus of "stormy Sabbaths:"—"The oldest inhabitant cannot remember a parallel to the long series of unpleasant Sabbaths with which we have been visited for the last four months; or, a former period, when for consecutive Sabbaths, our houses of worship have been closed, at least for a portion of each day. Such was the case in this city, on the 6th and 13th of this month, at least on a portion of each day, in consequence of the inclemency of the weather. From the 14th of October, 1855, to the 13th of Jan., 1856, inclusive, embrac-

ing 14 Sabbaths, one only was pleasant from morning to night."

In this county, during those 14 Sabbaths, we hardly noticed a diminution of the usual congregations, on more than one or two, on account of the state of the weather. Two only do I remember, which may be said to be stormy, and one of these, only in the morning. Our house of worship is on high ground, and exposed to wind from all points of the compass. Thermometer has been once or twice 21 or 22 degrees below zero, and on usual days, from 2 to 10 below, in this town, but our stages have not lost a single trip, or been delayed much beyond their usual time. The thermometer has been *lower* in some villages contiguous to streams, in our valleys, though not, so far as I have learned, so low as 30. We have, in all, some two feet of snow in the north part of the county, and probably more than that at the head of the streams which flow in to Memphremagog lake. The town, in which I write is 12 miles south of Canada line, and is generally three or four hundred feet above the level of the lake, or about one thousand feet above the ocean. The weather, thus far, has not been such as to make it uncomfortable to perform out-of-door work, with the exception of a very few days. There has been hardly any interruption to travel.

Jan., 1856. Yours, &c., ORLEANS.

EMERY'S RAILWAY HORSE-POWER.

The time has been, says the *Rural New-Yorker*, when the implements used in agriculture were of the rudest and simplest construction; when the ignorant hind who used them, possessed an intellect scarcely above the ability to yoke a pair of bullocks to a forked stick for a plow, and to tread out the ripened grain by means of cattle. As civilization advanced, and intelligence became diffused among the people, the agricultural laborer was not slow to avail himself of the lights of science in order to ameliorate his condition. He hastened to adopt improved implements of husbandry, until at length complicated and elegant machinery has superseded a vast amount of manual labor. The horse-power, the threshing-machine, the gang-plow, the mower and reaper, &c., &c., must now be reckoned among the necessities of the farm.

To keep pace with the demand for improved machinery, vast and extended workshops for its manufacture have been erected in various parts of the country, employing hundreds of men, and requiring the investment of a great amount of capital. Among those establishments which have become distinguished, may be reckoned the works of MESSRS. EMERY & Co., at Albany, N. Y. Their manufactory occupies a building four stories in height, built of brick, and the machinery and implements turned out by them are models of their kind. EMERY'S Horse-Powers and Threshers are especially known and appreciated in the grain-growing districts of the North and West. Those of our readers desirous of procuring information relative to, or purchasing, these or other machines manufactured at the above-named Works, will receive prompt and faithful attention by addressing the proprietors as above.

To J. D., WAKEFIELD, R. I.—How's cattle-leader will be for sale at the Agricultural Warehouses soon.

The price of the Cider Mill you inquire for is about $40.

SIXTH LEGISLATIVE AGRICULTURAL MEETING.

REPORTED FOR THE FARMER BY H. E. ROCKWELL.

The *sixth* regular meeting of the Legislative Agricultural Society was held on Tuesday evening, the number present being about the same as heretofore. The subject for discussion was, *"Preparation and application of Manures."*

The meeting was called to order by Dr. FISHER, who invited E. W. BULL, of Concord, to take the chair. He said he did not consider it so much a question how much land a man cultivates, as how much manure is applied. If a hundred loads are applied to an acre, it may be as profitable as to cultivate, a hundred acres, applying one load to an acre. Heavy dressing amends soils, improves their texture, and makes them valuable for a long period of time.

He thought it necessary to ferment manures. He had tried peat muck, by putting two pounds of muck to one of manure, he had found it more fertilizing than manure alone. On a dry soil he did not find it profitable to use unfermented manure, as it would dry up, and its virtues would evaporate. He prepared about forty loads of compost, by mixing peat-mud with the manure of one cow and one pig for a year, by the application of which he obtained fifty bushels of corn to the acre, where he had never obtained more than thirty before.

Dr. FISHER thought something might be said to reconcile the differences of opinion as to using manures in a fermented or unfermented state. Unfermented manures do well on a clay soil when the season is dry. If the season is wet, the manure rather produces acids than ammonia. The importance of using liquid manure, and applying it in a liquid state, was next suggested. For grass, he preferred it to any other form, because, it may be, in that form, thoroughly and equally distributed. He believed that if a cord of manure were leached, and the liquid applied, its effects would be greater than if applied in a solid state. Even to other crops he thought it equally valuable with solid manure. No man is justified in sending to Peru for guano, while he fails to save the liquid manure of his animals; because, as he believed, the liquid manure of every grown animal was worth $20 a year.

R. S. FAY, of Lynn, thought there were difficulties in the application of liquid manure which should be better understood than they generally are, before they can be relied upon. The application of liquids should not be made to plants until they have acquired some degree of growth, in order that it may be immediately taken up by them. It may be applied in such a way as to destroy the crop. Liquid manure of the strength of urine, should receive from five to ten times its bulk of water. If it is applied in a hot sun, much of its ammonia is evolved in the air. It is better therefore, to apply it in wet, rainy weather. There are so many circumstances to be be considered in its use, that its application is quite difficult. He had seen an entire farm in Ayrshire, Scotland, of a hundred acres, manured by liquid manure. The crops were very large. On another farm, it is said that five cuttings of Italian rye grass were taken in a season, the whole of which produced at the rate of seventy tons per acre. He considered the story too large to be told generally, and he was in the habit of saying thirty-five tons instead of seventy, in order that it might seem more credible. He had seen one farm of forty acres thus manured by irrigation. About two acres were cut at a time, and immediately after cutting, a quantity of the manure was made, by machinery, to flow over so much of the field. Then two or three acres more were cut, and the manure applied upon it in the same manner as before. Thus the whole field was cut and manured, a little at a time, five or six times in a single season. By this process the grass will become eight inches high, in three or four days. The *mode and time of application* of manure is of the utmost importance. He then referred to the practice in Belgium. They there cover manure, at the time of its being put upon the ground. The manure made in the summer is put in the ground in the autumn. It there assimilates with the soil, and is ready for use in the spring. So the manure made in the winter should be composted in the barn cellar in order to make it fit for use in the spring. With those two simple principles, he thought farmers could not go very far wrong, in applying manure.

B. V. FRENCH, of Braintree, followed. He did not believe farming could be carried on with any profit without manure. Even where lands are rich, there will come a time when manures must be applied. According to Dr. Dana, a cow will make a bushel of manure in a day, by mixing the droppings with muck or some similar substance. About seven cords of good manure may be made from a cow in a year, by saving and composting all the manure. When a farmer has made all the manure he can, he might still use more to advantage. He preferred applying the manure to the soil and plowing it in, to composting. In order to show of how little value fermented manure may be, he stated that he applied five cords of fine manure which had been fermenting two years, upon one end of a lot, six rods wide, and fifty long, and plowed it in. He then spread long manure over the whole field, equally, but he found no advantage from the five cords plowed in, that part of the field producing no better crop than the other. It was an entire failure, as he never saw any benefit from it in the first, second, third, or any future crop. On a field of poor land he applied three hundred pounds of guano to the acre annually, and had found its results very good for three or four years, in producing rye.

The application of liquid manure he thought might be of great advantage in a very diluted state. He withed farmers could agree as to the manner of applying manure in the best way, when that way is discovered; and it was important to experiment, and record and compare experiments in order to arrive at the desired result, which was of more importance to them than the commerce of the State.

The Chairman repeated that his own experience satisfied him that unfermented manure upon a dry sandy soil was not of much value, even if it was not entirely lost. He would certainly never apply raw manure to such a soil in the spring, though it might do better in the autumn.

Mr. French stated that in the application of guano he had found it necessary to have it pulverized and spread when there is no wind blowing, and better still if rain is falling. He thought it better to put the manure into the soil at a proper depth, than to compost it, as the labor and expense of composting is thus saved.

Mr. Fay was disposed to be modest in disputing the experience of the Chairman as to the effect of long manures on a sandy soil, but he still considered it well to cart out such manure in the fall and to plow it in, and he was confirmed in his opinion by the view of Mr. French. Whatever manure might be put upon a sandy soil, and plowed in, would be retained until it was taken up by plants. There might be a good reason for the failure of Mr. French to obtain any benefit from the manure which he applied to his piece of six rods in width, in the fact, that the land was sufficiently rich without any manure, or, that by the application of the general coating which was spread equally over the whole, it had become so.

Mr. Cooley, of Conway, gave the result of his experience in the application of long manure to a sandy soil. His farm was upon a river bottom, having a sandy loam of two feet in depth upon a substratum of gravel. When he went upon the farm, much of it was so poor that it would produce scarcely anything, not half a ton of hay to the acre. For the purpose of fair experiment he plowed up a hundred rods, and got from it without manure three bushels of buckwheat. The next spring he put on eight loads of long manure and planted to potatoes and hoed twice, getting for a crop forty bushels. The next year nine loads of long manure were applied, and potatoes again planted, and the crop was eighty bushels. The third year ten loads of manure were used, and one hundred and fifty bushels of potatoes were harvested.

His practice with regard to his corn land was to put twenty-five loads of long manure to the acre, and plow it in, about eight inches deep, and then from ten to twelve loads more to the acre are put in the hill, and from seventy to eighty bushels of corn are obtained uniformly. He would not plow deeper than eight inches.

Mr. M. M. Fiske added his testimony to the value of liquid manures. He did not believe in composting. The expense might be saved by putting the manure upon the land and plowing it in, and equally good results might be obtained. He had never seen any good results from the use of lime, but he knew that long manures, plowed into a gravelly soil, were beneficial. The great want of New England soil was the application of vegetable matter as a fertilizer.

Mr. Frederic Emerson, of Boston, thought that lime was valuable upon soils that were moist, and where there was iron in some form, in connection with an acid condition of the water. He thought farmers needed to know the results of the application of particular crops, and he gave his own experience in a single instance. He cultivated a small piece of land which had once been a garden, and was consequently rather fertile, with beets and carrots. Both the beets and carrots were sown in drills about two feet apart, and nearly at the same time, the beets occupying half of the land and the carrots the other. No manure was put upon the piece with the exception of the adjacent rows of beets and carrots—one of each,—which were two feet from each other. To these an equal quantity [the exact quantity not specified] of superphosphate of lime was applied, being put into the drills when the seed was sown. The yield upon the whole piece was fair, of each crop; but the adjacent rows told something in the experiment. The rows of carrots which had the superphosphates of lime applied, produced one-third less than any other; and the row of beets, treated the same way produced one-third more than any other row, thus showing that superphosphate of lime is good for beets, but bad for carrots.

The subject for discussion at the next meeting is "Agricultural Education," and a lecture on this topic will be given by G. E. Waring, Jr., of New York State.

[We believe that seven farmers out of ten in the States, may save more than the cost of this paper for one year, by the careful perusal of the above remarks on the *application of manures*. We believe the doctrine sound, and now certainly sustained by high authority, that the sooner manures are applied to the soil and plowed under, the more valuable they are. In winter we compost because we cannot plow under.]

Coining by Air Power.—All the gold and silver coins of England are struck by atmospheric pressure, or in other words, the air we breathe coins money. By a complicated arrangement of pneumatic valves, levers, springs, and other mechanical appliances, the air is made to exert its vast weight in rapid alternations upon a series of pistons, which, again connected with the coining presses, carry down the dies upon the pieces of metal to be coined with unerring precision and force.

For the New England Farmer.

"HOW TO RAISE COLTS."

MR. EDITOR:—In your paper of the 19th inst., I find some important inquiries under the above heading, to which "*A Subscriber*" requests an early answer, through the columns of the *Farmer*. As I have for several years been a subscriber *for* the *Farmer*, and have not *directly* contributed *to* its columns; and, having had experience in relation to the subject matter of "a subscriber's" inquiries—I offer the result of my experience and observation to the consideration of all those of your readers who feel an interest on this subject.

I shall not attempt to answer the inquiries of "a subscriber" in the order in which he has placed them, but will endeavor to make myself intelligible on the whole subject. It is no damage, either to a mare or the colt, to work her moderately up to the day of her bringing forth; and regular exercise is beneficial.

After she has foaled, the mare should be allowed to rest for one week; meanwhile, she should be handled every day, so as to accustom the colt to meet you without fear.

After the first week, the mare may be worked regularly; but care should be taken that she neither become weary, heated, or thirsty; under these restrictions, no harm will arise, either to the mare or her colt.

Colts may be weaned at any age, as well as a calf or a baby; and they should be at once, if it is required that the mare be put to hard work; but in such cases, there is danger of injuring the mare. It is generally best to wean a colt the latter part of September, without regard to age. Process—confine the colt in the barn where there is no chance of injury by *trying* to get out, and remove the mare to such a distance that neither can hear the other's call. Visit the colt several times the first day, handle it firmly but kindly each time. At night, give it two quarts of new milk, from the cow; selecting the cow that has most recently calved, and whose milk is poorest for butter. The next day, and onward, feed three times a day, from the same cow. After two weeks, milk of twelve hours standing may be used; and in one month, sour milk is just as good as any. While confined, the colt should be constantly supplied with fine hay and mellow apples; and may be suffered to run about the yard as soon as it becomes fond of you, which will be in a few days. They make the prettiest pets in the world.

It is no damage to the mare to give suck through the winter, under favorable circumstances. As a general rule, I prefer weaning in September, for the following reasons—1. It is favorable to the mare; the feed being short and dry, and her milk scant. 2. It gives her time to recover from the effects of her milk before winter. 3. It is the most convenient time to learn the colt to stay contented and alone. A lesson of great importance.

Milk may be given colts while you have it to spare, and then substitute swill. I have now eight colts, three years old and under, each of them as glad to see a pail of dish-water or pot-liquor as a shoat.

I believe roots are valuable food for colts of any age. Oats or grain of any kind should not be given before they are fit for the harness; unless, by some means the colt is pining, and then roots or milk are better.

I do not believe it an advantage to keep colts "high;" give them such food as will develop healthy bone and muscle; and, though they will not get their growth as young, they will ultimately grow as large, and have far more *stamina*; and are much less liable to accident.

It is generally a matter of economy to halter-break colts while running with the dam. This may easily be done by fastening them—either by strap around the neck, or halter—to the breast of the harness, giving them a chance to go either side, or in front of the mare, when in harness.

If the mare is flush in milk at the time of weaning, special pains should be taken lest her health suffer in the change.

I have uniformly found my colts, when weaned as above directed, gain in flesh, even within ten days. PHINEHAS FIELD.

East Charlemont, Jan. 21, 1856.

REMARKS.—We have never had the pleasure of raising a colt, but believe the course suggested above will lead to the best results. Too many of our horses are injured or spoiled before they arrive at four years of age. We shall be glad to hear from Mr. FIELD again.

For the New England Farmer.

RURAL ECONOMY OF THE BRITISH ISLES—No. 4.

CROPS.

I come now to consider the crops of English agriculture—the causes and consequences of the great animal production of England. The object of all cultivation is to produce the greatest quantity of human food upon a given surface of land. This object can be obtained by several different means. We say, naturally, that wheat is the most desirable human food, and therefore, we will sow wheat. But the English farmer, after a careful consideration of the whole subject, and the climate, says no, to the proposition to sow wheat on his land—"I must take a more circuitous course, and pass my land through other crops, before I sow wheat: for, in northern climates, one great drawback attends wheat; it exhausts the soil which bears it. It is true there are certain favored lands capable of producing wheat almost uninterruptedly, and where land is plenty and population scanty, wheat can be grown on the best soils, and then they can lie fallow; but a period at length arrives, when land too often required to bear wheat refuses to do so. It is impossible for me to take many wheat crops from my land; but my land affords spontaneously an abundant growth of grass for cattle."

On these two facts, to wit, that wheat exhausts his soil, and that his soil spontaneously grows grass, the English farmer builds his system of agriculture—or, I may say, his indirect and circuitous method of raising wheat. The spontaneous grass invites the feeding of cattle—the manure of cattle is the best agent to renew the fertility of the soil, after the exhaustion of a wheat crop. The argument is simple. The more cattle I feed, the more manure I have; the more manure, the greater the richness of the soil, and the production of wheat.

At first, the English farmers contented themselves with natural pastures for their cattle, and upon this

system one-half the land remained in pasture, and the other half was divided between wheat and fallows. But, by-and-bye, the idea of the cultivation of certain grasses and roots exclusively intended for the food of cattle suggested itself, and the fallows were reduced by this cultivation. After a time, the land given to wheat and oats was reduced, and more given to grass and roots, till a fifth of the soil only was given to oats and wheat. Thus the cattle increased, but the harvests of wheat and oats increased also, on a diminished breadth of soil, owing to an increase of manure.

Finally, through the genius of Arthur Young, the cultivation of England settled down into the Norfolk system, so called, of the rotation of crops. Half the cultivated soil is maintained in permanent grass—that composing what is called arable land, is put the first year, in roots, turnips or potatoes; second year, in oats or barley; third year, in artificial grass and clover; fourth year, wheat. For example, upon a farm of 175 acres, 75 would be in permanent grass—20 in potatoes and turnips—20 in barley and oats—20 in clover and 20 in wheat.

In this consists the whole system of English farming. A large extent of grass, whether natural or artificial, occupied for the most part as pasture, —two roots, the potato and the turnip—two spring cereals, barley and oats, and a winter one, wheat; all these plants linked together by an alternating course of cereals with green crops, commencing with roots which require hoeing, and ending with wheat. And the English have established this agricultural law, that to reap largely of cereals it is better to reduce than to extend the breadth of land sown; and that, by giving the greatest space to the forage or green crops, not only is a greater quantity of butcher's meat, milk and wool obtained, but a larger production of wheat also.

The extent of pastures is certainly one of the most striking features of British farming. Comparatively little hay is made in England, the winter food of cattle being chiefly obtained from the artificial meadows and from roots. Three-fourths of the English meadows are grazed, and as one-half the artificial grasses are also, and as turnips are, to a great extent, eaten off the ground by sheep, and as the uncultivated lands cannot be turned to account except in the shape of commons, two-thirds of the whole soil are thus given up to live stock. In this consists the peculiar charm of British fields. A land has a smiling aspect, whose greensward is depastured by fine animals, at large.

The system of pasturage has many advantages in the eyes of English farmers. It saves manual labor, is favorable to the health of animals, admits of turning to account lands, which otherwise would give but small returns, and which are, in course of time, improved by the deposits of the cattle; it supplies food always springing up afresh, and the sum of which is found, in the long run, to equal, if not exceed, that which would have been obtained by the scythe. Great importance is, therefore, attached to having on every farm a sufficient extent of good pasture. No where has the art of improving meadows and pasture lands been carried to such extent as in England; they have been rendered sound by draining, fertilized by irrigation, manuring, subsoil plowing, and improvements of every sort, for the encouragement of nutritious plants and the destruction of weeds.

The turnip crop is the starting point of the Norfolk rotation; upon its success depends the rest of the course. Not only is it capable of insuring the succeeding crops, from the abundance of manure given by the number of cattle it can feed; not only does it produce much butcher's meat, milk and wool, from the quantity of food it supplies for all domestic animals; but it clears the land, by the frequent dressings it requires, and by the nature of its growth. The English farmer spares no pains on his turnip crop; to it he gives almost all his manure, the most thorough weeding and his most assiduous care. The turnip requires a light soil and wet summers, and England has both.

Such are the results of the crops we have mentioned in the English system of agriculture, that the British Isles produce more food for cattle than the whole of France with twice the extent of acres. The quantity of manure is proportionally three or four times greater in England than in France, yet this mass of manure is not considered sufficient. Everything fitted for increasing the fertility of the soil,—bones, blood, rags, oil-cake, the refuse of manufactories, all kinds of animal and vegetable waste, gypsum and lime, are assiduously collected and put into the ground. Ships go in quest of guano—chemistry works to discover new manures, and a round sum, every year, figures in the farmer's accounts, for the purchase of fertilizing manures.

Land requires not only manure and fertilizers, but it must be dug, pulverized, levelled, weeded, drained, worked in every direction, so that the wet may pass through without lodging, be rendered pervious to the atmospheric gases, in order that the roots of plants may strike down and extend themselves. A host of implements and machines have been invented in order to facilitate these various operations, which economize labor and supply the place of a large number of hands. These filled a large space at the great exhibition.

Gardens and orchards occupy, as compared to other countries, a small space in England, and their produce is much inferior to ours. The English are not great consumers of fruit and vegetables; and they are right, for both the one and the other with them are very tasteless. All their eating as well as production, is confined to a few articles obtained in great abundance. In fact, the national genius of England, in agriculture as well as manufactures, and everything, aims at quantity in uniformity—in agriculture it produces two or three large crops upon a large scale by great simplicity of means; in manufactures, it produces the great staples of woollens, cottons and iron; in food, it delights in beef and mutton, and the potato, followed by crackers and cheese, while the French genius in all these things and others, aims at quality in variety.

Let me ask here a few questions. Have we any system of agriculture in New England? I think the answer must be, we have none. Probably sufficient capital is not yet applied with us to agriculture to develop one; probably neither labor nor capital are yet cheap enough with us to be so applied; perhaps until within a few years, the markets for farm produce with us have not been high enough to demand a good agricultural system. Shall we ever have one? I think so. The fertile West is against us. But the cost of transporting farm produce from the West is large. The markets, which our manufacturing, mechanical, city and town

populations will afford for farm produce, will call for a New England agricultural system. What will it be? New England minds will work out that question. But is it not clear that before we have, or when we have a system of our own, we must so far, follow England, as to have a race of sheep of our own, of which meat will be the chief and wool the accessary product, and which will produce a large weight of meat at an early age? Must we not have, also, a good and fixed race of milch cows—a precocious race of cattle, giving a great weight of butcher's meat? Must we not have a fixed rotation of crops? Must not the culture of roots be a part of it? Must we not feed many cattle, and have much manure to make our agriculture profitable? Must we not, in one word, study, though we may not adopt the English system? M.

For the New England Farmer.

MEASUREMENT OF CROPS.

The uncertainty and want of uniformity, in the different modes of determining the quantity of produce on a given quantity of land, makes it very desirable that some uniform mode of measurement should be adopted.

Take for instance Indian corn, a crop more extensively cultivated than any other. This crop is usually estimated by the bushel. But what is a bushel? The statute defines it to be a measure containing a certain number of cubic inches—and it further prescribes the number of pounds a bushel shall weigh. These would seem to be limits sufficiently precise:—but experience shows that corn gathered before it is fully ripe, will shrink from twelve to twenty per cent. before it is fit for use. It is common in some places, Plymouth County for instance, to select out a part of a field that will yield an average product of the whole, and to mark off an exact rod, and to gather the corn that grows upon this, and to multiply this by 140, and thus ascertain the quantity upon an acre.

A few years since, 75 lbs. weight in the ear was estimated a bushel; of late 85 lbs. green corn in the ear is estimated a bushel. It is apparent that all such estimates must be essentially modified by the kind of corn raised—the state of dryness when gathered and weighed—the size of the cob—always supposing the purpose of those measureing to be equally honest.

Remarks of like character will apply to almost every variety of crop grown. I would respectfully suggest, that some definite and certain mode of measurement should be prescribed, either by the Board of Agriculture or by the Legislature, and that the same should be required in all the counties of the Commonwealth that presume to use the money of the State *as rewards of culture.* ESSEX.

Feb. 19, 1856.

REMARKS.—This should be done—but who will attend to it if "Essex" does not?

☞ The WOOL GROWER AND STOCK REGISTER, only fifty cents a year, T. C. PETERS, Editor, published at Rochester, N. Y., is the best work, devoted to sheep husbandry, in the country. It is printed well, handsomely illustrated, and all right.

For the New England Farmer.

ORNAMENTAL GARDENING.

I understand "Ornamental Gardening" to refer to that department of rural affairs which relates to the laying out, arranging and embellishing of grounds. It is beginning now to be pretty generally understood that the farmer may have a home that shall be extremely attractive. The means are within the reach of the humblest, if he have the taste.

Suppose the house to be located a little back from the highway, it is out of the dust, and safe from the gaze of the staring traveller. Is there not land enough in the world, that a few rods may be allowed for ornament in front of one's home?

It seems in accordance with good taste, that the grounds in front of one's house should be occupied with *ornamental trees and flowers alone.* A mistaken practice is to introduce almost every variety of fruit in beautiful confusion. But the foreground in the home picture is like the parlor in character. It should be neat, clean, trim—as elegant for the guest to walk through as the parlor to sit in. Now, fruit trees will not permit of the neatness and order that can be maintained with forest trees. Fruit trees require *always* that the ground should be cultivated and annually enriched. Forest trees, when once growing vigorously in decent soil, allow of an unbroken turf—Nature's own beautiful carpet. Fruit trees do not admit of such shapes as are natural to forest trees. They scatter blossoms over the ground in Spring, and in Autumn, litter the ground with imperfect and decaying fruit. The limbs bend and droop over needed avenues, to be propped by fence rails, or old slabs.

It is best to have forest trees by themselves, and fruit trees together, also. An elm will dwarf any fruit tree in the vicinity, and is an expense and an annoyance in cultivated grounds anywhere. By the roadside, in lanes, and public squares, it stands unrivalled as the proudest of trees. The sunny side of one's home, it stands the most grateful of guardians; so tempering the scorching heat of the summer's sun that the dwelling is deliciously cool through the day, and is a place for rest at night, instead of an heated oven to suffer in.

When the cold weather comes, and the sunshine is needed for health and comfort, the elm flings down it awning and waits for the right season to get up a new one.

Now instead of planting deciduous trees (those that shed their leaves in Autumn,) on the south side of the house, some mistake by setting evergreens. These afford a poor shade in summer, when the sun is nearly vertical, and obstruct the desired warmth and light when the sun runs "low"

It is very obvious where evergreens belong. Their place is *on the north side of a dwelling.* There, their thick lower branches check the fury of the cold winds, and are a great protection.

I do not mean by any means to exclude *fruit trees* from the grounds, but these should occupy a compact, regular lot by themselves. They may occupy and become a part of the kitchen-garden; not of minor importance to the forest trees, but only occupying, like the kitchen, a more retired position.

I have spoken only of trees. They are to the *face* of Nature, what the human hair is to the wearer,—an ornament and a defence. W. D. B.

Concord, Mass., 1856.

EXTRACTS AND REPLIES.

YOUNG PEAR AND PEACH TREES.

MR. EDITOR:—I should like to inquire through the medium of your valuable paper, where I can obtain a few thousand pear stocks, and at what price; wishing to set that amount out the coming Spring. Also, where I can buy some young peach trees.

Danvers, Feb. 20, 1856. A SUBSCRIBER.

HOW TO RAISE COLTS.

If I had a *good colt*, I would take him from the mare at four months old, and feed him in the barn. If in warm weather, give him good room and air, and some *green food* daily. If late, I would give him half a pint of oat meal with a quart of cut carrots, and continue this through the *first winter* to keep him in good flesh and growing. I would lead him to water and let him play. After this, with a decent chance, he would take care of one, no mistake, without grain, till he came to work. I reckon this better for mare and colt, than remaining longer together.

DO POTATOES MIX.

In answer to A. Pixby, permit me to say, potatoes never mix, any more than beets, carrots or turnips, by the roots growing in proximity. I have planted different kinds in my garden, and I have taken the balls from one kind, and then raised as many kinds of seedlings, as there were different varieties of potatoes in blossom, and also some hybrids. I once planted the kidney potatoes *alone*, and took the balls and planted to renew them, and my seedlings were of only one kind, the kidney, which afterwards produced abundantly and very fine quality. I consider it an established law of Nature, that *like produces like*, and that the hybrids in animals, fruits and vegetables, are the consequence of mingling different species. We might raise every variety of fruit without budding or grafting, could we get the *unmingled seed*.

For many years I raised and sold the finest variety of peaches and peach trees, the product of one tree standing alone, till I procured other kinds for the sake of variety, and set out in the same garden, when lo! I had no more of the kind pure, but hybrids enough in my nursery, raised from the pits of this same tree. I have had the same experience in apples. BENJAMIN WILLARD.

Lancaster, Feb. 12, 1856.

FISH FOR MANURE.

MR. EDITOR:—Can you, or any of your correspondents, give me the best method of applying fish to the land, as a manure for corn; they are very extensively used in this part of the country; some prefer to spread them on broadcast and plow them in immediately; others, to stack them with dirt and sand. We get them during the month of May. By giving your opinion upon this subject, I shall be much obliged. G. W. P.

Little Compton, R. I., 1856.

REMARKS.—Personally we have no experience in the use of fish manure, but have often heard opinions of it expressed, and have seen lands dressed with it. It adds great value to the compost heaps of the barn-yard, and when mingled with them in moderate quantities, will decompose and not become particularly disagreeable during the process of decay. It is said that by making an excavation in the earth—according to the amount of fish it is desired to work over—filling it with fish and covering it with peat muck or loam, that in a few days it will become soft. It should then be wet with diluted sulphuric acid, and the muck, sand or loam, stirred in with it. Then the whole may be removed, and the same process gone through with a fresh supply.

They are excellent composted in alternate layers of leaves, peat muck, loam, pulverized charcoal, or even saw-dust. Excellent plowed under in a crude state. Excellent when four are laid around the hill and covered up when the corn is planted, and excellent dug in, in moderate quantities around fruit trees, say three to ten feet from the tree, according to its size.

TALL TREES.

I saw accounts of some large trees in your paper last week, and read them with interest. I cut a Rock Maple from my woods the 14th inst., which is less than two inches in diameter and measures 41 feet in length. A Pine less than 3 inches diameter, 45 feet.

We don't boast of our large trunks, but we stump the readers of the *N. E. Farmer* to measure poles with us in Vermont. BENJ. F. WHITTIER.

Hartford, Vt.

FLOWING CRANBERRY MEADOWS—PRUNING.

MR. EDITOR:—Will spring water have the same effect when used to cover cranberry vines in winter, as common river or rain water? Or will the spring water so used be an injury to said vines? (*a.*) What benefit is derived from the top-dressing with sand on peat or swamp land for the cultivation of the cranberry? (*b.*)

What month is best for pruning old apple trees? (*c.*) T. C. KINGSLEY.

Allenton, R. I., 1856.

REMARKS.—(*a.*) We have no doubt that spring water will answer all purposes for flowing a cranberry meadow.

(*b.*) As a general thing, wherever we have found a luxuriant growth of cranberries, we have found sand, usually white sand—within six to twelve inches of the surface. This has led us to believe that the cranberry plant requires considerable sand, and that, therefore, it will not flourish well on meadows composed, or nearly so, of pure vegetable matter. Hence the benefit of sand when applied to a peat meadow. The sand coming in contact with some salt, which acts as a base, is dissolved, and is then ready to be taken up by the roots of the plants. It has the effect, on meadow lands, to make herd's grass and red-top stand up, by coating the surface of the stem with a substance which is brittle and almost as hard as glass.

(*c.*) Prune in mid-summer, or in October or November. Not in March or April, unless you wish to spoil your trees. And when you prune, cover

up the wounds you make, as carefully as you would your finger if a piece of it were cut off. See a recent article by "N. T. T." on this subject.

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WHITEWASHING ROOFS.

MR. EDITOR:—I should be pleased to have your opinion, or the opinions of some of your numerous contributors, on the practicability of whitewashing the roofs of buildings. Would not whitewash be as good a preservative for the roof, as for the sides of buildings? Any one will confer a favor by answering the above, through the columns of the *New England Farmer*.

Yours truly, ORRIN P. ALLEN.

Proctorsville, Vt., Jan., 1856.

REMARKS.—Would not the whitewash lodge on the ends of the shingles, and prevent the water from running off readily, and thus cause them to decay? It is said that shingles, painted after they are laid, have this effect, and do not last so long as those unpainted, unless they are dipt in paint, or painted on both sides before they are laid.

A TALK OF PLUMS.

Few fruits are more beautiful on the tree, or more tempting in the dish, than plums. As a dessert, they are every where esteemed, and are extensively used as a preserve, and in either form, taken moderately, they are wholesome and nutritious. The beautiful about us adds something to our happiness, if our tastes are rightly cultivated, as well as a ministration to our physical wants; and what can be more attractive than a small, well managed plum orchard near a favorite window, or in a sunny spot of the garden, where the rich, dark red of the Golden Drop, the faint green of the Imperial Gage, the golden yellow of the Jefferson, or the pale crimson of the Washington, gleam in the sun, and reflect their colors upon each other! How delightful to lead your friend, unexpectedly to him, where plums in variety hang in clustering profusion, and invite him to gather at will of those ready to drop with fulness and perfection! The work of your own hands, too, the result of odd moments, a few at a time, when the body required a little exercise, and the mind a change of scene and employment. "So the plums cost me nothing, sir; indeed, they are more than clear gain; for in cultivating them, I cultivated my own mind for a love of the beautiful and useful, and awoke new emotions of gratitude and love. Fill this basket, sir, and take them to your wife and children."

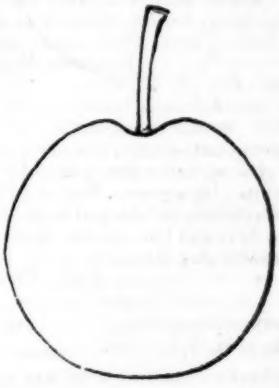
Plum trees are hardy and easily cultivated, and are suited to our climate, unless the black wart is a climatic disease. They flourish better, however, on soils that are rich loams, than on rich sandy soils. Of late years, thousands are deterred from setting plum trees by two discouragements—the *black knot* and the *curculio*. The first is destroying them in large numbers, and no remedies seem yet to have been discovered that will prevent it. Many have been suggested, but their efficacy has not been uniform. The curculio continues its work only for a short time, and may be prevented from doing much mischief by the timely application of fine lime, ashes or plaster, sifted over the young fruit as soon as it begins to form, and continued twice or three times a week, for a month.

Below we introduce four well established varieties, either of which is worthy of a place in the garden. Other varieties, equally as good, perhaps better, we may speak of, and illustrate at another time.

LAWRENCE'S FAVORITE.

Rather large; roundish, slightly oval, with flattish ends; yellowish-green, clouded with darker streaks, light greenish bloom, at full maturity brownish blotches and reddish specks around the stem; stalk short and slender, in a small cavity; flesh greenish, melting, very juicy, of a brisk, delicious, vinous flavor, resembling and almost equal to the Green Gage, and larger. Almost freestone. Last of Aug. to Sept. 15. Vigorous, upright growth; moderate bearer. Originated by Mr. L. U. Lawrence, Hudson, N. Y.

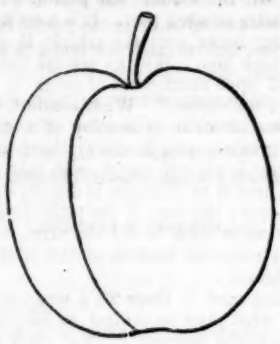
PURPLE GAGE.



Medical; roundish, flattened at the ends, shallow suture; skin rather thick, violet, yellow dots, blue bloom; stem nearly an inch long, rather stout; flesh yellowish, rather firm, of a rich, sugary, high, luscious flavor, almost equal to Green Gage. Freestone. Aug. 25 to Sept. 25, and lasts through the

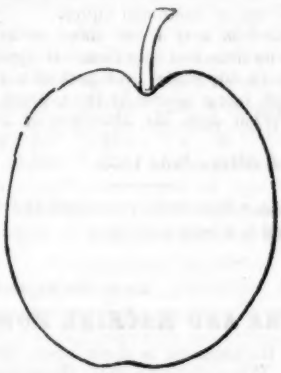
month. Fruit very hardy, hanging long on the tree, shriveling slightly. Excellent for the dessert and for preserves. Great bearer. Foreign.

IMPERIAL GAGE—PRINCE'S IMPERIAL GAGE.



Large medial; oval, distinct suture; pale green, with a yellow tinge, and clouding of darker green, thick white bloom; stem medial, in a moderate cavity; flesh greenish, melting, very juicy, of a rich sprightly, delicious flavor. Mostly freestone. 1 to 15 Sept. A vigorous grower and prodigious bearer. Dark shoots and leaves. Fruit rather inclined to rot. Adapted to rather dry soils. Native of Flushing, N. Y.

SMITH'S ORLEANS.



Large; roundish-oval; broadest at the base, distinct suture on one side; reddish purple, azure bloom; stem short, slender, in a deep, narrow cavity; flesh yellow, rather firm, juicy, of a sprightly, vinous flavor. Clingstone. Sept 1 to 20. Tree hardy and vigorous, and adapted to various climates and soils. Very good for market. Rather inclined to rot, when hanging very thick.

Cole's Fruit Book.

CORRECTION.—Our attention has been called to an omission in the report of the transactions of the U. S. Agricultural Society, at its late meeting at Washington. The name of FREDERICK HOLBROOK, as Vice President for Vermont, was not given. The error probably occurred in changing the arrangement of the names from one solid column, as we found it, into two columns, as it stands in our paper.

For the New England Farmer.

PLANTING PINES.

MR. EDITOR: — As I am intending to plant out and raise a few acres of *white pine* timber, I wish to learn the best method of propagating the same from the seed, and also the best method of nursing and cultivating the trees. I have several acres already of this valuable timber growing, (indigenous,) on land formerly covered with hard timber, and is about twenty-two years since it was first discovered, probably the first year of its growth. These were but small bushes in 1839. I had them trimmed up and thinned out a little at that time, and have thinned them out for fire-wood occasionally since, and the quantity and value of the timber, aside from its beauty, is far greater than it would be, if the first growth had been allowed to stand till now. Any suggestions by you or any of your correspondents in relation to this subject will be duly appreciated.

JOHN M. WEEKS.

West Farms, Salisbury, Vt., Feb. 15.

REMARKS.—Last summer, during a visit to the Cape and Martha's Vineyard, we saw many acres covered with young pines under cultivation. We are not able to state the process, but have no doubt that brother PHINNEY, of Barnstable, will enlighten us with the whole story, through the *Patriot*, which we shall be happy to spread before our readers.

For the New England Farmer.

PLAN FOR A CHEAP SUMMER HOUSE.

MR. EDITOR: — In answer to the inquiry of Mr. Hill, of Yarmouth, in the last *New England Farmer*, for "a plan for a small and cheap summer-house, upon which vines may run, and in an unpretending garden," I will state the course adopted by myself, a few years since, to obtain such a summer-house. Having occasion to use about one hundred white cedar posts for fencing, I had the bark carefully stripped off and laid aside for an experiment in rural architecture. This I proceeded with in my own way. I set in the ground at one side of my garden four red cedar posts, about ten feet long, leaving say seven feet in length above the surface. These were set about eight or ten feet apart, in the form of a parallelogram, and were the posts of my summer-house. I then nailed pieces of rail around the top, for the plates of the roof, and on two sides fastened the ribs for the same, made of strips of board, and across these ribs longitudinally nailed other strips. I had thus a stiff frame for a roof, which I proceeded to cover with the broadest strips of the bark, nailing them on up and down, in the old style of boarding roofs. The roof has a sharp pitch, and a projection at the eaves of a foot or more. On three sides of the house I formed a door-way, or open space, by setting smaller posts in the ground, and nailing them at the top to the plates. Pieces of board were nailed cross-ways for ribs, leaving the open spaces for door-ways on the front and sides, and running entirely across the rear part of the building. These ribs were then covered both inside and out with the bark, being nailed on in strips lengthwise.

I thus made myself a very cheap and pretty summer-house, around which have been planted the various climbing roses, and which, in time, I hope to

see enveloped by their foliage and flowers. The expense for the materials of this structure is comparatively small, though the time taken in nailing on the strips was considerable. Still I have felt amply remunerated for the outlay, the house having stood two years, without needing repairs. A rustic seat in the interior will complete the work, where, Mr. Editor, when you visit me of a summer day, we will sit and talk over the past exploits of farming, and the future prospects of this healthful if not profitable occupation.

But as to summer-houses. I must say that in any garden, pretentious or unpretentious, they should not be made, as they too often are, of strips of board planed and painted and finished off with as much exactness and nicety as a dwelling-house. They have more the marks of art than is in keeping with the garden. Here the trees, the shrubs, the plants, have all the irregular aspect that nature gives them. But if you choose to cut and shape these into pyramids, and other artistic forms, then you may make your summer-house to correspond, and yourself wear a bob wig, three-cornered hat, and breeches with knee-buckles, when you walk or work among them.

Yours truly, ALLEN W. DODGE.

Hamilton, Feb. 4, 1855.

REMARKS. — Capital suggestions, these. And when did his pen ever write, that he did not make such? We consider your "when you visit me," as a *bona fide* invitation, and shall appear to you at the earliest opportunity.

For the New England Farmer.

BARNS.

MR. BROWN:—I am glad to see that you propose adding still further to the interest and value of the *Farmer*, by publishing some plans for good barns. This Winter, a good many of your readers are making preparations to build in the Spring, no doubt, and any hints of a practical character may save them money.

Hoping before I am many years older to occupy a better barn than I now do, I have had my attention particularly directed to this subject, and have been into a good many fine barns. I need not go out of town, as you very well know, sir, to find them. And I undertake to say that the exception is not known in Concord, where a judicious outlay for a spacious, convenient barn, has not been followed by unmistakable evidence of *thrift* about the whole premises.

Those who build now, are prettly generally agreed upon one point; that it is more economical to build *one* building for the various farm purposes, rather than the great number which are seen so common about old establishments.

Let us look at a few figures, which *won't lie*. A building ten feet square contains one thousand cubic feet. Not to speak of the roof, the outside presents a surface to the weather of four hundred feet. we have, then, ten feet inside, to four feet outside.

Take another example. A building twenty feet square contains eight thousand cubic feet; the outside measures one thousand six hundred feet. Here we have five feet inside to one foot outside. We will now take a building forty feet square. The inside to the outside is as *ten to one!*

I am aware that the larger structure requires a heavier frame, that is all. The boards and shingles are the same in either case. I know, too, that the wide roof is worn by rain. That objection, however, is not of great weight.

I hold, Mr. Brown, that one part of a large barn accommodates another part. It is a saving of steps to have your horse near the vehicle to which you wish to attach him. Why go several rods to a ten-footer, and open another set of doors in the wind to "get out the chaise?" What comfort, in returning from market or town-meeting on a stormy day, and driving into a snug floor-way, there to untackle and put away horse and wagon, with ease and expedition. There is no difficulty in dispensing with the carriage house; the barn is the place for all the vehicles, the cellar takes in all the carts, and coarse wagons—a room at the side of the drive-way, the lighter vehicles.

Then what need is there for a separate building for tools; what place so central as an ample room by the side of the floorway? You start from the barn, usually, to go to different parts of the farm, and you return thither after the work is done.

I have thought, Mr. Brown, that portable bins for corn might be put up in this large tool-room. In the busy season of the year, corn-bins are apt to get pretty low, so they would not be in the way much when the tools were most used. I should prefer that the bins be where they could be seen to often. One might stand a better chance then of keeping the rats from destroying the corn. I have little faith in these out-of-the-way places to keep corn, it is sure to waste and injure.

In conclusion, may I ask those readers of the *Farmer* who have had experience, if apples can be kept through the winter in a part of the barn-cellar, without being tainted by the manure in the vicinity? What does Mr. Morrison, of Somerville, say?

W. D. B.

Concord, Mass., Jan., 1856.

REMARKS.—Excellent—we regret that it got out of sight and has been postponed so long.

For the New England Farmer.

SCYTHE AND MACHINE MOWING.

Father Buckminster is down upon the mowing machines. What ails the man? He seems to think scythe mowing as cheap as machine; and so far as the past is concerned, he *may* not be far from right; but it cannot be so with the future. The machines we must have. Any machine, which, in our hurried climate, substitutes brute for human labor, in the months of May, June and July, must be cherished. If a mowing machine will cut the grass as well and cheaply as the scythe, we should say of it as Patrick Henry did of the war,—"Let it come;" because it eases the severity of summer labor.

But more is to be expected. It will do the work cheaper and better, after a few more such years as the past has been, for improving the machines. It probably does it cheaper already. At least such is the opinion of many who have used it; and not a few who have tried it two or three years, declare that although a good mower will excel it in the goodness of the work, yet it already does its work better than the majority of such hands as can be hired.

J. A. N.

SEVENTH LEGISLATIVE AGRICULTURAL MEETING.

Reported for the Farmer by H. E. Rockwell.

The *seventh* regulur meeting of the Legislative Agricultural Society was held on Tuesday evening, in the Hall of the House of Representatives. The meeting was called to order at half-past 7 o'clock, and Gen. Salem Towne, of Charlton, was called on to preside. He expressed some regret that the meeting was not more full, and that a notice of it had not been put in the daily papers. Before the close of the meeting, however, the attendance was as good as usual.

He then introduced as the lecturer of the evening, George E. Waring, of New York, stating at the same time the topic of the lecture to be, "*Agricultural Education.*"

The lecturer commenced by paying a high tribute to the people of Massachusetts as having done more, through their Legislature, for the promotion of agriculture than any other people on the continent.

He then spoke of the relative importance of agriculture, as not only surpassing any other occupation, but all other occupations. The necessity of educating those who are to be farmers, in such a manner as to fit them for their appropriate business, was insisted upon, and its necessity illustrated in a variety of ways. Agricultural Colleges are needed; but in order to be most highly beneficial they must be supported by those who attend them. But while we have no Agricultural Colleges, their place may be and should be supplied by giving an agricultural education to boys in the common schools. The introduction of agricultural studies into the schools of Great Britain has been tried with success. Chemistry should be made subservient to an agricultural education by making boys acquainted with the fundamental principles of agricultural chemistry. Philosophy also should be studied with reference to making boys acquainted with agricultural mechanics. Whoever is to be a farmer has a right to know all that relates to the first principles of his business. No one can be a good practical farmer without knowing the nature of the raw materials from which he is to produce his crops. He must know what he is to get from his soil in any particular crop, and consequently he must know what to apply to the soil, in order to enable him to obtain that crop.

The materials which constitute plants were then specified to a considerable extent, and then the manner of their growth was considered, and plainly pointed out.

The uses and abuses of soils were next referred to. In the consideration of soils it is necessary to regard especially their ashy or inorganic matter. In all fertile soils there is a large quantity of phosphoric acid. The soil of the Miami valley contains 4 per cent. of phosphoric acid, while the best wheat land in Massachusetts contains only 2½ per cent. The importance of atmospheric fertilizers was particularly commented upon. The air supplies to soils quantities of ammonia, carbonic acid, and oxygen. These not only enter plants through the leaves, but they enter into the composition of the soil to a great extent.

But few realize to how great an extent manure is lost in the country. In riding from New York to Boston, he had taken pains to notice the barns along the route, so far as he could do so, and he had seen but one barn upon the side of the railroad track which he was in a position to see, where the manure was not thrown out of the stable window and left exposed to the action of the atmosphere. The waste of manure, especially in cities, is enormous. Some very interesting statistical statements were made in this connection which were well fitted to impress the audience with the importance of greater attention to saving manures. Man is but a tenant of the soil, and he is guilty of a crime if he impoverishes the soil and leaves it poorer by his cultivation than he finds it, so that those who come after him suffer from his wastefulness. In conclusion, the lecturer said that farmers were yet, to a great extent, working in the dark, and were guided by superstition in many instances, rather than by reason.

At the close of the lecture, Rev. Ralph Sanger, of Dover, said that he was much pleased with the lecture, and he considered it,—to use an expression suited to his own profession — "pretty close preaching," and to carry out the same idea, they had got to make an "application" of it. He then referred to the comparative results of cultivating wheat in Ohio and in Massachusetts. The average crop of wheat in Ohio has been stated to be sixteen bushels to the acre. In Norfolk County he had known forty bushels to be raised to the acre. Of three entries for premiums on wheat, the lowest was about twenty-five bushels to the acre and the highest was thirty-two.

Mr. J. Brooks, of Princeton, said that the average crop of corn in Illinois is thirty-six bushels to the acre, and in Massachusetts, it is thirty-one. There is, therefore, more made in Massachusetts than in Illinois, by the cultivation of an acre of corn. The price of a bushel of corn in Illinois was 40 cents, the last year, making the value of the crop from an acre $14,40. It is said to cost $5 an acre to cultivate it, which would leave a profit of $9,40 per acre. Corn has sold in Massachusetts for $1,25 per bushel this year, and the value of the average crop of an acre would therefore be $38,75. Admitting the cost of cultivating an acre to be $20, which is considered high enough, the profit is $18,75 per acre, or $9,35 more per acre than in Illinois.

Mr. BROOKS strongly urged the importance of saving manure, so as to produce larger crops. We are trustees of the land, and we have no right to starve our children who are to inherit it. The farmer is the first man in the world; everything depends upon him. It is important that he should understand the theory of soils and manures, and know their chemical elements. All knowledge may be brought into use in farming. He did not quite agree with the lecturer that in every case, corn should not be hilled. He had tried hilling and leaving corn to grow without it, and had found that which was hilled to stand best when exposed to the wind.

Mr. SIMON BROWN, of Concord, expressed his gratification with the lecture, and especially with that part which related to the education of the young farmer. He thought much of the education of the child who is intended to be a farmer to be wrong. Instead of selecting the brightest boy of a family to educate at College, he should be the one who is instructed in farming. Of all professions, there is none which requires such varied and deep learning as that of the farmer. But the method now pursued is to push aside the boy who is intended to be a farmer, so that he loses many opportunities which others enjoy. He has fewer holidays, and he does not enter into company so often as the child of the mechanic. The same is true of the daughters of farmers. There should be a change in the manner of educating young farmers.

Agricultural Colleges and schools are important, doubtless, but there are schools enough around us all the while, which are not used. Every gentleman present might set in motion a school in his own neighborhood by collecting together some dozen young men around his parlor fire, and encouraging and instructing them in agriculture, and by providing them with such periodicals as will instruct them. That has been done in one town, and it has altered the whole face of things in a few years. Every one can do much in that way.

The Chairman said he hoped they were not so much behind the age in his vicinity as had been suggested. He did not think the farmers' daughters worked any harder than girls did in former times.

Mr. DODGE, of Sutton, corrected a statement made by him at a former meeting, in which he had put the number of barns in the State at thirty-six thousand. He had been since informed by the Secretary of the Board of Agriculture, that there were seventy-six thousand. He took occasion also to re-affirm that in his opinion, the business of agriculture has depreciated within the last twenty years on this side of the Connecticut river. The importance of saving everything in the shape of manure of any kind, was also urged. He was decidedly of opinion that composting was unprofitable, any further than was necessary to catch and save liquid or other manures that would otherwise be lost. To use his own language, "this composting, or using phosphates, is all gammon. We don't know anything about it in our section; nor are we ignorant."

A farmer in his vicinity, who has read the discussion here, on the subject of the application of manures, expressed his surprise that there was so much said in favor of composting. He said that he applied his manure in a fresh state, and then after spreading upon the surface, plowed furrows, just far enough apart to cover it—cut and cover, he called it—and leaving the space between the raised furrows for the water to subside into. The manure thus covered was composted in the soil, and none of it was lost.

The farmers of Massachusetts are as intelligent as any class of people, and they bring up their sons and daughters in a manner as reputable to them as any other profession.

With regard to the cultivation of corn, he said he had no doubt it could be raised here with more profit to us than it could be to any farmers at the West, if they have to come here for a market.

Mr. C. L. FLINT then rose, and expressed his pleasure with the lecture of Mr. Waring, and offered the following resolution, which was unanimously adopted.

Resolved, That the thanks of this Legislative Agricultural Society, be and are hereby paid to GEORGE E. WARING, for his able and very interesting lecture on Agricultural Education at the State House, Feb. 26th, 1856.

The subject for discussion at the next meeting was announced to be, "*Grasses and Small Grains.*"

For the New England Farmer.

NEW IDEAS IN AGRICULTURE.

Pumpkin seeds should not be fed to milch cows, unless you wish them to decrease in milk. A gentleman in this vicinity has tried it, believes it, and would have made it known earlier, but for fear of ridicule.

Girdling an apple tree the last of June, or when its fruit is of the size of a common walnut, will not kill the tree, but improve the fruit.

A close chamber is a better place to keep apples than a cellar. Apples bear freezing once without injury, if they are not handled till thawed. Linen cloth laid on or around apples prevents injury from freezing. Apples have been found in good order in the spring, that have lain in barrels under the trees all winter. Roxbury Russets are considered the longest keepers.

Gathering fruit from the apple and currant trees, when green, or before they are fully ripe, makes them more prolific the following year.

Trees designed for clayey soils do best when transplanted in the spring.

Currants bear in three years from cuttings. Apples bear in ten or fifteen years from seed, usually in about twelve years. J. N. BAGG.

For the New England Farmer.

NOTES FROM THE SOUTH.

Weldon, N. C., Jan. 10, 1856.

DEAR SIR:—Agreeably to my promise to you, to give my ideas of Southern agriculture, I am now writing you from this town, or rather collection of houses in North Carolina.

Weldon is the junction of three lines of railroad, Northern, Southern and Western, and were it in Yankee land, would long ago have rivalled many of our Northern cities, but it is a mere "indus" at present.

The changes from the Northern practice of agriculture may be seen the moment one leaves Philadelphia; the grass crops become of less importance, the grain of more; and instead of carts and wagons that may be drawn, well loaded, by two horses or mules, the wagons and carts need, at least, two mules to draw them without minding the load. I repeatedly saw at Washington, four and even six mules drawing loads that I should send into Boston, from my farm at Lexington, with at the best, two horses, and in most cases, only one. A very remarkable feature, too, is, that no one drives his load as we do, sitting in the wagon or on top of the load, but whether he have two or four horses, rides one in the saddle, and drives the others, either by reins or the voice.

The agricultural implements, too, strike a Northerner with amazement. Hoes as large as four of ours; plows that a man can hardly lift, and often not running more than three inches in the soil.

Seeing all these things, and having been told ever since I can remember that the Southern people do everything by halves only, I was not surprised at the state of things that I found prevalent in this State. I have been staying here several weeks, and have therefore had a pretty good chance to see things as they are. Now, remembering what I have said about the poor tools, the negligent habits of the people, the carelessness of the negroes, &c., as well as the highly cultivated fields, trim grass lands, nice barns and large yields of our best New England farms, shall you not be surprised to hear me say, that even here, in North Carolina, a State rarely heard of, and generally considered entirely behind the times, I have seen better farming, better tools, better discipline and better crops, than I have ever seen before in my life.

It may seem to you something like exaggeration, but it is nevertheless true, that any of our Northern farmers might visit the estates of Messrs. Henry and Thomas P. Burgwyn, on the Roanoke River, near Halifax, to their very great advantage.

These gentlemen farm, or more properly plant, some three thousand acres of land, and show a perseverance against obstacles, and a grasp of mind, agriculturally, that would do them credit in any portion of the world. Their lands consist of a rich alluvial river bottom, some high and some low, that with reasonable culture, will yield twenty-five bushels of wheat or less of corn to the acre; land much of which they bought for less than five dollars per acre because it was worn out.

The texture of the land is loamy clay, and when they took their plantations they had been so long cultivated in the old way, plowing three inches deep, that all the surface below that depth had become hard as a rock. As I more particularly studied Mr. H. R. Burgwyn's plantation, having staid there a week, I will confine myself to what he has effected. Mr. B. inherited his plantation about seventeen years ago, together with some hundred negroes, he, at that time, living at the North, although of Southern birth, and at that time of decided anti-slavery tendency. His first business after taking possession of his property was to investigate how he could best dispose of his slaves for their own advantage; and in his researches occupied several years. In the meantime he also applied his thoughts to bettering his lands; whilst engaged in this liberation scheme, together with his brother, he imported a hundred Irishmen, so as to try white labor, which proved an entire failure, costing them about $2000. A mind thus active had not failed of course to study the plantation economy, and seeing us plant deep and liberably manure at the North, he tried the same thing on his lands, and putting in his plows ten inches instead of three, found the benefit; he also suffered very much from standing water which made his clay subsoil so tenacious as to be almost unworkable; to remedy that he dug ditches, and besides innumerable covered and blind ditches, has one single straight ditch, two miles long. Probably all of his ditches would out-measure eight miles. When he first commenced there was not a single field in one crop on the Roanoke that would exceed a hundred acres; he had last year, nine hundred acres in wheat; four hundred and fifty in corn, and five hundred in clover; and he has for this year, nine hundred in clover and nine hundred in wheat, the corn not yet planted. To manure the wheat of last year he not only applied several thousand dollar's worth of lime and artificial manures, but also turned in clover enough at present prices to come to six or eight thousand dollars more. Of the nine acres of clover this year, he will cut a portion, feed a portion, and turn in the remainder. The first wonder is, how he cuts his wheat; he had last year six four-horse reapers in the field at once; his wheat is cut, then bound and stooked, *and then thrashed in the field.*

The thrashing goes almost simultaneously with the cutting. To thrash this wheat he has a steam thrashing machine, of twenty horse power, that will thrash one thousand bushels in a day; and I saw it shelling corn at the rate of two thousand bushels a day. His working force is one hundred and seventy-five negroes, fifty-five mules and horses, and one hundred and fifty head of cattle, about one-third of which are oxen. His plantation at this season of the year, is, of course, much less inviting than at the growing season, the more particularly that it snowed the day after we got there, and has not thawed yet. So severe cold has not been known these thirty years here; the Roanoke being covered with ice, and the thermometer at eight degrees above zero. In spite of the wintry appearance however, it is easy to see his improvements, particularly for one, whose business is, like mine, to judge of nature's beauties and capabilities. His house stands in a grove of oak trees, and has directly in front of it a field of wheat, of six acres, not one great square field, but beautifully broken and diversified with groups of trees: and when fully grown, under the influence of the wind, it must even rival the beauty of a water landscape, as it rolls, swells and waves, according to the power of the blast.

Such a plantation is a village in itself; it has its carpenter's and blacksmith's shops, its wheelwright

and harness-maker; and this one its steam engine. From the nine hundred bushels of wheat, Mr. B. measured off twenty-three hundred bushels of wheat, which sold in Petersburg, Va., for $2,25 per bushel.

But a word for the character of the country.—Probably no State in the Union can surpass it in its capacities. Not only are there these immense and fertile fields, but almost all the temperate and many tropical fruits flourish there; the apple, pear, plum, cherry, peach, persimmon, grape, currant, gooseberry, strawberry, blackberry, and huckleberry grow wild, together with which may be cultivated the fig and pomegranate, amongst the fruits. In the field crops, we have all the cereals, Indian corn, tobacco, cotton, hemp, flax, indigo, madder, the grasses and several of the root and green crops, and lastly but not least, the sweet potato, that may truly be called the staple of the South. In the mountains are almost every kind of valuable mineral, and its immense sand plains are covered with the long-leaved pine that gives turpentine, rosin, tar, pitch and yellow pine lumber.

Every one has heard of the immense herds of hogs that live in the woods here, returning to the owner only when hunted for, or starved out in the winter: a singular feature of the pine tree, is, that its mast and young roots are a favorite food with hogs upon which they fatten rapidly,so that the long-leaved pine may be considered the protecting genius of the State, giving as it does shelter, when worked into lumber the materials for ship building, fire in its waste portions, light by its far-famed light wood knots, and food for the pigs, which in their turn supply the only one thing the pine tree does not, animal food for man.

The great desideratum here is intelligent white labor; any intelligent and willing Northerner, either, as farmer or mechanic or tradesman, is sure to succeed if he will but come here and apply the same powers of mind here that he would at home.

Land can be purchased for three dollars an acre, which by simply deep plowing, and the application of a small amount of lime, will yield fifteen to twenty bushels of wheat the first year.

Mr. Burgwyn told me of numerous instances of this sort; instancing one of his own plantations thus purchased for three dollars per acre, from which he sold $30 per acre the first year.

The only danger to be apprehended is, that such men coming here would become slave owners; for the institution as seen here presents no obnoxious features, and *provides so well for the animal happiness of the slave*, that it necessitates one to continually summon up his principle to resist falling in with and heartily approving the whole system; but to one who cares nothing about slavery and who is minded to put energy into his action, here lies a certain fortune.

Excuse the length of this letter; in future I will be more concise. I remain yours truly,

R. MORRIS COPELAND.

BRIEF HISTORY OF GUANO.—The London *Farmer's Magazine* furnishes the following brief history of guano:—"Guano, as most people understand, is imported from the islands of the Pacific—mostly of the Chincha group, off the coast of Peru, and under the dominion of that government. Its sale is made a monopoly, and the avails, to a great extent, go to pay the British holders of Peruvian government bonds, giving them, to all intents and purposes, a lien upon the profits of a treasure intrinsically more valuable than the gold mines of California. There are deposits of this unsurpassed fertilizer in some places to the depth of sixty or seventy feet, and over large extents of surface.

The guano fields are generally conceded to be the excrement of aquatic fowls, which live and nestle in great numbers around the islands. They seem designed by nature to rescue, at least in part, that untold amount of fertilizing material which every river and brook is rolling into the sea. The wash of alluvial soils, the floating refuse of the field and forest, and, above all, the wasted materials of great cities, are constantly being carried by the tidal currents out to sea. These, to a certain extent at least, go to nourish directly or indirectly, submarine vegetable or animal life, which in turn, goes to feed the birds, which in our day are brought away by the shipload from the Chincha Islands.

The bird is a beautifully arranged chemical laboratory, fitted up to perform a single operation, viz.: to take the fish as food, burn out the carbon by means of its respiratory functions, and deposit the remainder in the shape of an incomparable fertilizer. But how many ages have these depositions of seventy feet in thickness been accumulating?"

SAVE COAL ASHES.

ARTHUR YOUNG, in his valuable Report of the Agricultural Surveys of several European countries, speaks of cases where coal ashes were used with great and astonishing success, though the statements made to him, he says, were quite discrepant and contradictory. In one of his articles upon the subject, he remarks:

"Coal ashes are used from fifty to sixty bushels to the statute acre, for a common dressing; they succeed well sown on clover in March or April, on dry lands, and do much good applied to sward lands, during any part of the winter or spring. They are never used on wheat. In very dry seasons, coal ashes do very little good; they, as well as most other of those dressings, requiring rain after being sown to set them to work."

Coal ashes, like the ashes of wood, possess many valuable qualities, and are generally found to possess great efficacy on soils which are characterized by a deficiency of alkali. Why the ashes of coal should not be regarded as valuable on wheat lands, is a problem we are wholly unable to solve. No crop is more decidedly improved by alkalescent manures, as a general thing, and as coal, as well as wood ashes, possess certain alkaline properties, as well as other energetic principles, their application to the crop must necessarily, we think, be productive of advantageous results.

In the 4th volume of the *Farmer*, for 1852, page 474, may be found an excellent article by Mr. STORER, of West Hartford, Conn. His experiments in the use of coal ashes, had surprising results. There is also an article on the subject in the volume for 1853, with an analytical table by Prof.

NORTON. This subject is introduced, because inquiries have been recently made with regard to the value of coal ashes as a fertilizing agent.

For the New England Farmer.

WINTERING BEES.

MY DEAR SIR:— Your paper of Feb. 16 contained a timely caution, "Take care of your Bees," which in the present inclement season, merits more notice than heedless and inexperienced bee-keepers give. The greatest peril of the season with regard to them is yet to come, when the warm days of spring invite them abroad, and the heavy body of snow now upon the ground, by imparting a chilliness to the atmosphere, to which they are unaccustomed, disenables them, and will, if proper caution is not exercised in their behalf, ruin whole colonies in a short time.

Aside from this unnatural atmosphere, there is another cause of a fatal effect attending their going abroad while the snows are dissolving, especially if a warm sunshine invites them from their winter quarters. They become snow-blind, lose their way and fall upon snow never to rise. Hence it is desirable to keep them in as dormant a state as possible until the snows have fairly dissolved. To effect this, a cool locality, with little if any light, is decidedly the best. The cool may be found in open buildings, where the sun's rays will not fall upon the hive, and if the building is too light, a rug or piece of matting may be thrown over the hive, so as to shut out all the light from the apertures, and yet leave a free circulation of air, if that is necessary, though we doubt the utility of giving too free an access of the latter.

Our views on this matter are established from the experience we once had of burying some light hives in the earth on the approach of cold weather, and allowing them to be buried until frost came out the following spring. Here they lay, froze in, and much of the time covered with snow, yet when they were taken out, they were as fresh and lively as though no winter had disturbed their dreams; the loss in number was very small, the quantity of food consumed was trifling, indeed; the air that reached them must have been very small in quantity, yet we never saw bees healthier in spring, or work better in summer, than these.

We left a few hives standing unprotected the present winter. The consequence was, in one of our earliest severe storms, they were all buried in a heavy drift, which we removed in front in order that the necessary evaporation of moisture arising from the breath of the bees might be going on, and prevent the formation of ice in the hives. But our labor in this matter was soon counteracted, for another storm came and buried them still deeper, while the rapid succession of storms and blows to which we have been subject deferred our labor in the clearing away process, so that they remained buried in snow some four weeks. Last week, however, the wind stopped blowing long enough for us to take breath, and among our earliest labors we exhumed the hives from the cold tomb that the winds had raised around them. We found they had, by their breath probably, melted the snow from the immediate front of their hives, and were as lively as a cool morning would permit them to be. They were removed to a cool, dark room, where they are now apparently enjoying their morning nap preparatory to spring labors, with a commendable and healthful quiet.

From the facts in the case, so far as they have been presented, I have concluded that the dryer and more dormant bees can be kept until spring has fairly set in, the less will be the loss in wintering, both in numbers and food, and, as a matter of course, the more prosperous they will be the following summer. Yours truly,

Elmwood, Feb. 26. WILLIAM BACON.

REMARKS.—The above facts and suggestions are valuable. There is more capital invested in bees in New England than many believe. It is an error to suppose they need the sun in the winter—they want an equable temperature, and that may be a pretty low one, down to the freezing point, or even lower, all winter, if it be regularly so. Hives protected on the north, and open on the south where the sun will strike them freely, will become so warm, even in February, as to set the bees all in motion; they will then pass out of the hive to relieve the promptings of nature, become chilled or blinded, or both, fall upon the snow and die. They may be safely kept in a cold chamber or attic, in a cool, dry cellar, and we have heard it stated, buried in the centre of a hay-mow, the aperture being closed with stout wire gauge. The article of our correspondent is timely and excellent, for which we beg to express our thanks.

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BRISTOL COUNTY SOCIETY.

NATHAN DURFEE, Fall River, President.
JOHN DAGGETT, Attleboro', } Vice Presidents.
S. L. CROCKER, Taunton, }
S. A. DEAN, Taunton, Treasurer.
L. T. TALBOT, Taunton, Secretary.

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J. A. BECKWITH, Middlebury, Corresponding Secretary.
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LORENZO RICHMOND, Woodstock, Treasurer.
LORENZO KENT, Woodstock, Secretary.

CONNECTICUT RIVER VALLEY SOCIETY.

[This Society will embrace towns on both sides the river in New Hampshire and Vermont.]

A. B. CLOSSON, Hanover, N. H., President.
GEORGE PRICHARD, } Secretary.
ALEXANDER MCLAINE, }

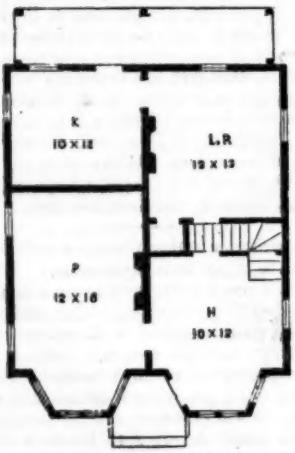
A VILLAGE OR FARM COTTAGE.

This is one of the beautiful designs which we have promised, from the work entitled *"Village and Farm Cottages,"* by the Messrs. Cleveland & Backus Brothers, of New York. Come, and look at it, and see how inviting it is in every particular. Criticise its proportions, observe its approaches and surroundings. See how rural it is, and yet how modestly dignified and attractive. No wonder a woman approaches it, "last, best gift." Beyond the close fence is the garden; now be seated on the piazza, under the luxuriant grape vines, and see how completely that agrees with the mansion itself. It is not an ornamental garden, it certainly is not purely a kitchen garden. It has no pretensions, but like the house, it supplies the wants of the family with everything it can in its way.—How convenient to drive to the door, or turn and drive away to the stable. No sharp angles in the way, no frightful sinuosities to torture your carriage wheels, and give them a cramp for life. Everything is easy, and natural, and unsophisticated about it.

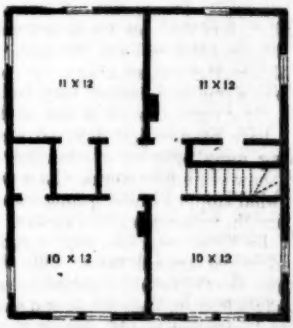
Will all this have an influence on its occupants? Who can tell? Has architecture, and art, whether on the House or on the Soil, any moral bearing on the heart? on the character? on the happiness of the family? Who can tell? Will the shade of *Inigo Jones* reply?

"In exterior and future, this design has considerable claim to originality. There are two large bays on the front, one in the parlor and the other in the hall, The main entrance is at the side of the latter. This is from a porch, partly enclosed by these projections, and covered by an overhanging roof.

There are four good chambers on



THE FIRST FLOOR PLAN.



THE SECOND FLOOR PLAN.

Of these three have clothes presses attached. The front windows of this story are double,—two in one. This makes the rooms more valuable, while it gives dignity to the exterior. Many house fronts are spoiled by having too many windows. The wall-veil has no breadth or dignity, and the house becomes a large lantern.

The roof is low and has a bold cornice. The back verandah is plain, with solid posts and visible frame-work. There should be a rear building, the roofs joining. In winter, the middle part of the verandah may be enclosed, making an entry to the kitchen and wood-room.

Its general form makes it suitable for a spot where it may be seen from several points. The lot on which it is to stand, should be open and smooth, rather above than below the grounds about it. Height of each story 9 feet. Cost, $1,200."

For the New England Farmer.

RURAL ECONOMY OF THE BRITISH ISLES—No. 5.

CONSTITUTION OF FARMING AND MARKETS.

In my last, I submitted a few questions respecting the system of agriculture, which would, in time, be adopted in New England, and how far we should copy the English system. I venture to say we shall never adopt the system of large farms, which is by many considered the distinguishing feature of the English system. Our institutions are opposed to the system of large farming, and sound policy is opposed to it and to its tendency. Whatever the system we adopt, the farmer here will own his farm, and where the laborer owns the soil he tills, the spade digs deeper, the scythe takes a wider sweep, and the muscles lift a heavier burden. A few rural populations, owning their own farms, is indispensable to the lasting prosperity of a country and to its military strength. England feels now, as Rome felt before her, the evils of the policy she has carried so far, though not as far as is thought, the conversion of small holdings into large farms—in her inability to fill up her armies. She has driven by the conversion of small farms into large ones, many of her rural population to her cities and other lands, whom she now would fain have in the Crimea; though perhaps this population is better off, scattered where it is, in other lands and even in cities, than it would be in the Crimea. But the martial pride of England can no longer glory as it once could, in its rural military strength. A just retribution—fruit of an unjust policy.

Large farming is indeed carried very far in England, but as we before remarked, not as far as is thought. There are the immense possessions of the nobility; but there are also the modest domains of the gentry. There are dukes, who own whole counties, but there are 250,000 proprietors of the soil of the United Kingdom; and two-thirds of the soil is in the possession of what may be called second rate proprietors; and farms of 200 acres are very common. An erroneous impression prevails, that landed property in England does not change hands. Here a particular fact has been unduly generalised. Certain lands are under entails, but most are free.

Just as the concentration of property in England is very much over-rated, so the influence which large property exercises, in the superiority of its agriculture, is also exaggerated. Large farms usually, though not always, imply capital, that is, means to command labor, manures, tools, farm-buildings, stock, &c., in possession; but where the owner of a small farm has a proportionate command of these means a small farm will be better cultivated than a large one, and produce more in proportion to its size. Large farms, in England, have generally belonged to men or been cultivated by men of large means; hence their success. In New England, small farms are cultivated by men of small means, and markets near at hand have stimulated this cultivation, hence the state of farming in New England. The Island of Jersey, with its dependencies is a country of small proprietors; there is scarcely to be found, in the whole island, a property of forty acres, many vary from five to fifteen; but yet it is cultivated like a garden. The great bane of agriculture, of manufactures, of commerce, of every business is, in fact, debt, and want of means, not debt contracted, to make improvements, but to hold the property used, and stock it, and carry it on. In fact, there is no distinction between agriculture and manufactures, though it is so often made; both are processes to produce results useful to man—both are processes to produce results by the aid and co-operations of the powers of nature and by the blessing of God—a beet, a carrot, a potato, an ox, a sheep, grass, are each as much a manufactured article, produced by man, by the use of means and labor and capital, as a piece of cloth, or a plow, or a machine, or any implement. God aids, by the powers of nature and the qualities he has imparted to created things, as much, in the one case as the other; and man co-operates with his Maker, in the one case, as well as the other in producing the results, by his thought, his labor, and his capital. A small manufactory of any article, with proper capital and skill, will produce as cheaply and often cheaper than a large one. A small farm, with proper capital and skill, will produce as cheaply and often cheaper than a large one. The products of the farm and of manufacturing require markets and will not be produced unless there are markets for them. When money is worth three per cent. per annum, as in England, there will be better and cheaper farming than with us here, where it is worth seven, and there will be better and cheaper farming, especially on a large scale, where labor is cheap as in England, than with us where it is dear; there will be better farming, marts population is dense and congregated in the where of commerce, and manufactures largely, than with us, where it is sparse and scattered. The same is true under the circumstances stated of manufacturing; in fact, farming partakes of the nature of manufacturing, or is manufacturing and subject to all the laws to which farming is subject. The best constitution of property for agriculture is that which attracts to the soil most capital, either owing to the owners being richer relative to the extent of land they possess, or because they are induced to lay out a larger proportion of their income. I believe that with us, small proprietors are most liberal to their lands. Nothing can exceed the implicit confidence with which the English farmer makes advances to his land, a matter in which our farmers do not rival him, though they may do so hereafter,

as markets and means tempt them to it. The English ascribe their substitution of horses for oxen, their large out-lays for manures and fertilizers, for levelling, subsoil-plowing, draining, and to large farming, but these things are signs of rich and intelligent, rather than of large, farming. Small and middling farmers understand the benefit of these things quite as well as great; they are unknown only where farmers are poor and ignorant. What characterizes English farming is not so much large farming, so called, as the raising of farming into a business of itself, and the amount of capital at the disposal of farmers. We have settled how much capital is needed to carry on most manufacturing operations, but not how much is needed to carry on the operations of a farm, which is, as we have shown, no more nor less than a manufacturing operation; but the English farmer before 1848, held, that to conduct a farm, he must have a capital of $40 to the acre, and now he thinks $80 to the acre not too much.

But *markets, markets,* are the greatest and most pressing requirement of agriculture. How to produce is a question which thousands of minds settle after the demand for production comes. In markets, the English farmer has the advantage of farmers of all other countries. From the development of manufactures and commerce in England, the farmer there is surrounded by industrial and commercial populations, which exist nowhere else in the world. One-third of the English nation is congregated at two points, London in the south and the manufacturing towns of Lancashire and West Riding; these human-ant hills are as rich,as they are numerous. If the Yankee farmers were thus sursounded by markets, think you they would not settle, as the English have done, the questions, what produce brings the highest price relatively to its cost of production, and by what means the cost of production is to be reduced in order to increase the net profit? The English farmer, for example, gives a preference to the production of meat, but this is not only because the animals by their manure maintain the fertility of the land, but because meat is an article much in demand and the population are rich enough to buy it. So of milk, and so of wheat.

I think an observer can see that the markets of New England begin to speak in a voice, which the farmer must hear in many a farm-house, whose occupant has thus far raised but little more than was needed for his own consumption, and that the increase, in the populations of the towns and cities of New England, portends an agricultural revolution.

The agricultural population of England has developed a law of increase, which I trust, will not be developed by ours; and yet there are indications that we tend in the same direction. The more populous England has become, the less proportion has the agricultural population borne to the whole population. At the end of the last century the agricultural population was sixty per cent. of the entire population of England; it is now but twenty-five per cent of the entire population. In 1800, it was reckoned that there were about nine hundred thousand agricultural families in Great Britain; now there may probably be a million. But now the non-agricultural families amount to five million, while in 1800 they did not probably amount to a million.

If this be the law of increase of agricultural population, as a country advances in population, then, as a country advances, the processes of agriculture must improve, the products of agriculture, on a given surface be greatly increased, and the price of agricultural products must advance.

There is a feeling of discouragement in New England respecting agriculture; but it will pass away; she has taken the two great steps towards agricultural prosperity; she has developed commerce and manufactures and thus multiplied consumers, and improved the means of communication which bring consumers and producers together. Will the fertility of the West keep New England agriculture at a stand? M.

For the New England Farmer.

SEED POTATOES.

MR. EDITOR:—As much has been written in your paper about seed potatoes, permit me to give the views that I have obtained from my experience and observation in growing them.

As respects small potatoes for seed, I have sometimes planted them, and have had a good crop; but experience has taught me that, by continuing to plant the smallest size a few years successively, you will have small potatoes. And this we might reasonably infer from the nature of things.

I think we should select for seed those that are most perfectly grown and matured. I would not select all the largest size to plant, for they are oftentimes defective. Neither would I select those that are covered with prongs, or in any way defective.

Potatoes intended for seed, I think should be grown upon a soil which has not been made so excessively rich by manuring, as to force their growth to an enormous size; such are not likely to be matured in a very healthy state, and consequently are unfit for seed. This rule will apply to many other things. Animals raised upon very high keeping, may be forced to an unusual growth; but this will exhaust the powers of their natures, and they will become unhealthy, and be short lived. Such would be poor breeders. One thing more, in respect to seed potatoes. They should be grown in a soil in which potatoes are least affected with the rot.

Ipswich, February, 1856.

REMARKS.—One thing seems generally to be forgotten in speaking of "seed" potatoes—and that is that we *do not* use the *seed* for planting, but the tuber. We have experimented for years by using large and small potatoes, and have never been able to discover any difference in the product. Indeed, we heard Mr. BUCKMINSTER, of the *Ploughman,* state a few evenings since, at a Farmers' Club, that it was highly probable that an *unripe* potato is actually better for planting than one that has come to perfection; and we are more than half inclined to agree with him. In times of scarcity, some persons cut out the eyes, and use them *only,* and still without any diminution of crop. This is usually the case with sweet potatoes,—nobody thinks of planting the whole potato to remain as the source of a hill. Too much care cannot be observed, in using the most perfect seed—when seed *is* used.

For the New England Farmer.

HOW TO GET GRASS CROPS.

Old Fields—Ashes—Lime—Salt and Brine—Keeping Stock up—Switching them for Exercise—Ventilation—Remarks.

MR. EDITOR:—I am in trade. Have 145 acres of land, three miles from place of business; thirty acres in grass. Soil, coarse gravel; bears one-half to three-fourths ton good hay per acre. Now as hay is the most profitable crop grown in this lumbering region, I wish to keep the soil, if possible, in condition to bear one ton per acre, by top-dressing, and sell my hay. Ashes can be delivered on the farm for twenty cents per bushel, (unleached.) Rockland lime, $1 62½ per bbl. Plaster, $10 per ton. Will all or any of them be profitable to buy for top-dressing? Hay is worth, (average price,) $10 per ton on said land. If so, when and how should they be applied? (*a.*)

I have the salt and brine that remains in retailing fifty bbls. of pork and fish annually—would it be right to scatter the salt and brine on to the mowing field, or mix with muck, lime or ashes, or even charcoal? In answering these questions, I deem it of the greatest importance to be sure, beyond a reasonable doubt, that it will *pay*, for investment in manure is often like "railroad stock," the balance sheet may show money out of pocket. (*b.*)

A neighbor of mine asks your opinion of the policy of keeping stock tied up all the time, in the barn. In his case, it is less labor to drop the manure into the cellar, and water the stock at the stanchions, than to turn them out of the barn. But the main question is, is it as well for the health of the stock? One argument advanced by him in favor of his new plan is, that the stock are more comfortable or warmer, and hence, will do better. Another is, that they are in no danger of injuring each other, as is often the case, the stronger beating the weaker; and cows, especially, being more quiet, will give more milk.

In answer to my objection that they will suffer for want of exercise, he proposes to make them stand about to the right and left pretty lively, with a switch, once each day. His barn is forty by fifty feet, three stories high, including the basement, and clapboarded. I urge to ventilate by raising the windows in either gable end—from the fact that the moisture from fifteen head is so great, the roof, and even the walls of the barn, are completely covered with frost an inch thick in places, and constantly accumulating. As our neighbor is a reader of your valuable paper, I hope, should you agree with me in my suggestions for more ventilation to his barn, it might induce him to reduce it to practice. (*c.*)

C. S. WELD.

Olamon, Penobscot Co., Me., 1856.

REMARKS.—(*a.*) If your grass land has been mowed for several years, the *roots* are probably scattering and feeble, so that if you manure ever so highly, a good crop could not be reasonably expected until the new grass, stimulated by the dressing, had formed new and vigorous roots. To do the work properly, therefore, the land should be plowed and re-seeded; then with a plentiful application of ashes, together with a little barn manure, *if possible*, for the first year, you would probably get an average crop of a ton and half of the best hay for several years. But an annual application of ten to fifteen bushels of ashes per acre would be required.

(*b.*) Mix your salt and brine and lime with peat muck, for a top-dressing.

(*c.*) Your doctrine is undoubtedly correct with regard to the stock. On a sunny day, turn out three or four of the cattle to stay an hour or two, and on the next as many more, until all the stock have their turn. The *card*, drawn in vertical lines down the sides of the cattle with a careful hand, would be an excellent substitute for "*the switch.*" The evaporation from the manure, with the breath and perspiration of the cattle, will soon destroy the strength of the timber and boarding of the barn, making it weak and rotten as "punk." But, notwithstanding, your "neighbor" is more than half right. A long experience has satisfied us that cattle do better tied up most of the time.

WONDERS OF THE CREATED UNIVERSE.

What mere assertion will make any one believe that in one second of time, in one beat of the pendulum of a clock, a ray of light travels over one hundred and ninety-two thousand miles, and would, therefore, perform the tour of the world in about the same time that it requires to wink our eyelids, and in much less than a swift runner occupies in taking a single stride? What mortal can be made to believe, without demonstration, that the sun is almost a million times larger than the earth; and that, although so remote from us, that a cannon ball shot directly towards, and maintaining its full speed, would be twenty years in reaching it, it yet affects the earth by its attraction in an inappreciable instant of time? Who would not ask for demonstration, when told that a gnat's wing, in its ordinary flight, beats many hundred times a second; or that there exist animated and regularly organized beings, many thousands of whose bodies, laid close together, would not extend an inch? But what are these to the astonishing truths which modern optical inquirers have disclosed, which teach us that every point of a medium through which a ray of light passes is affected with a succession of periodical movements, regularly recurring at equal intervals, no less than five hundred millions of millions of times in a single second! That it is by such movements communicated with the nerves of our eyes that we see; nay, more; that it is the difference in the frequency of their recurrence which affects us with the sense of the diversity of color. That for instance, in acquiring the sensation of redness, our eyes are affected four hundred and eighty-two millions of times; of yellowness, five hundred and forty-two millions of millions of times; of violet, seven hundred and seven millions of times per second. Do not such things sound more like the ravings of madmen than the sober conclusions of people in their waking senses? They are, nevertheless, conclusions to which any one may most certainly arrive, who will only be at the trouble of examining the chain of reasoning by which they have been obtained.—*Herschel.*

NUMBER OF TREES ON AN ACRE.

Table showing the number of Trees required to plant an acre of ground, from one to fifty feet apart.

FEET.	TREES.	FEET.	TREES.
1	43,560	26	64
2	10,890	27	59
3	4,840	28	55
4	2,722	29	51
5	1,742	30	48
6	1,210	31	45
7	889	32	43
8	680	33	40
9	537	34	37
10	435	35	36
11	360	36	32
12	302	37	31
13	257	38	30
14	222	39	28
15	193	40	27
16	170	41	26
17	150	42	24
18	134	43	23
19	120	44	22
20	108	45	21
21	98	46	20
22	90	47	19
23	82	48	18
24	75	49	18
25	69	50	17

For the New England Farmer.

SUNFLOWERS.

MR. EDITOR:—My residence is in the *woods*, and my experience as a farmer is small, having spent the most of my life in professional matters. But even the desert presents its oasis, or green spot, and watering-place, so those of small experience may have something to say.

Last fall, I planted a few sunflower seeds around the stumps and about the corners of the fences. Three of the largest sized heads, representatives of the mass, I counted, one numbering a thousand seeds, the second, one thousand two hundred and fifty—the third, one thousand five hundred. The same stalks yielded in addition to the above, from one to four more heads.

Now, if one seed will raise a thousand, the smallest number counted in one head, the seed being one foot apart in the row, and two feet apart wide, on an acre, we have, as I have counted and measured, two hundred and twelve bushels.

Why might not the seed be sown and harrowed in the same as oats, care being taken to have the seed far enough apart. I harvested the heads with a knife, and put them under cover, and fed them out to my poultry, who do all the threshing, and pronounced a bushel of sunflower seed equal to a bushel of oats.

As this is my first attempt at the business, I should like to be informed as to the best mode of seeding and harvesting. The stalks would make good kindling, or baker's wood, for both city and country. (*a.*)

RUTA-BAGAS.

Among the stumps, very rough and soddy, I raised some roots weighing eight pounds. The crop was not over half the quantity, as rated by good farmers, and yet I find it very profitable. I keep only one cow, whose feed is half a bushel of roots per day, with corn stalks and straw, at a profit of one dollar per week. This cow, but for the roots, would probably have dried up in the fall and have been a dead expense until spring. As it now is, I anticipate near a pail of milk per day, while the frost and snow of 1856 remains.

Please tell us the best seed—the time for sowing—the quality of soil—the mode of cultivation. (*b.*)

ONIONS.

Will the *Farmer* tell us how to raise this useful article? Thus far, I have not made the business profitable. Please give us some names to whom an address would be satisfactory. Near Detroit, we could find an ample market. (*c.*)

PARSNIPS AND CARROTS.

One of my neighbors raised five hundred bushels to the acre. He turned over a piece of sod, mellowed it with harrowing, did the necessary work, and received the above rich reward. The carrots he fed to hogs, cows and horses. in the place of corn and oats. A little information as to the *modus operandi* would be thankfully received.

CORN AND OATS.

These grains do well among the roots, just so far as the seed has a chance to the mellowed earth below the muck. I fully agree with an old farmer, who writes in one of your numbers, "*plant corn*, and again I say, *plant corn*." This is a grain never out of place, save when out of the crib, or out of the stomach of man or beast.

EBENEZER M'DONALD.

Utica, Michigan, January, 1856.

REMARKS.—(*a.*) Perhaps some of our readers have cultivated the sunflower as a crop, and understand the true mode; if so, they will confer a favor upon us and our correspondent by replying. The sunflower contains a very nice oil—would it not be well to cultivate it on that account? It is said to burn well in lamps, and as the plant is hardy, and of vigorous growth, it seems that a sufficient product might be attained, to make it an object of cultivation. Perhaps a difficulty would be met in finding some expeditious method of expressing the oil: but means would soon be devised to accomplish that, if the crop were found profitable.

(*b.*) There is among us a great variety of turnips, but the common ruta-baga, or Swedish turnip, taking its quality and productiveness into consideration, is perhaps as good as any. It is hardier and more nutritious than any of the common sorts, and in addition to its being more esteemed for the table, and as food for stock throughout the turnip season, is better adapted for spring feeding generally. It, however, requires a somewhat deeper and superior class of soil and more generous manuring than the common flat turnips.

For the ruta-baga, the ground should be plowed deep and finely pulverized, and the manure thoroughly incorporated with it. Harrow level, and sow with seed sower, the rows two and a half or three feet apart, and the plants at least one foot apart in the row, and then the whole ground will be covered, if the crop is a good one. Leaving them too thick in the row must be carefully guarded against, as their leaves are broad and extend freely on every side, so that even as widely apart as we have stated above, they will entirely cover the ground, long before the crop has come to maturity. There is another advantage in cultivating

the ruta-baga, as it may be *transplanted* succesfully where the seeds have failed to come.

(c.) Preparation of land for onions should be much like that for ruta-bagas. The seeds of both are small, and require a very fine tilth in order to ensure germination. CHARLES B. CLARK, Esq., of Concord, Mass., has raised the finest crop we have seen this year, and would undoubtedly communicate to you his mode of cultivation. A liberal dressing of ashes will be quite likely to bring a good crop.

VILLAGE AND FARM COTTAGES.

The most beautiful,—and what will prove the most useful,—book which we have seen on this subject, is now before us, with the above title. By HENRY W. CLEVELAND, WILLIAM BACKUS, and SAMUEL D. BACKUS, young, intelligent, and enterprising men, and published by Appleton & Co., N. Y.

We cannot half so well in any other way give the reader a true idea of the work, as in the words of those who made it. They say—"In preparing the following pages of designs and prints, we have had in view a class, numerous and important in every community, but specially so in ours—comprehending mechanics and tradesmen of moderate circumstances, the small farmers and the laboring men generally. A moderate home, which he may call his own, is beyond the search of no capable and industrious man. It is a laudable ambition which prompts him to strive for such an object. We have endeavored to provide the villager of limited means with a plan for his small house, in which strict economy shall be combined with comfort, good looks, and substantial value.

"Convenience, facility in doing the family work, and pleasantness of internal aspect and arrangements, were our first aim.

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"We believe that every improvement in the abodes of men, which renders them more neat, comfortable, and pleasing, contributes not only to physical enjoyment, but to mental and moral advancement."

These gentlemen do not seek to contribute alone to the physical enjoyment, but to the mental and moral as well, and this gives the whole work a tone and a value which it would not otherwise possess. The descriptions are prudently written by one made competent for the task by reading, reflection and observation; and he has accomplished it with as much of genuine feeling as of art.

They have not given us the perspectives on barren heaths with forbidding approaches. The surroundings exhibit as much good taste as do the architectural proportions and ornaments. Nothing that tends cheaply to embellish and render the home lovely and attractive, is omitted.

The Initial letters are gems, and the thoughts they suggest—with the exception of those of moving in May—are of the most pleasing character. The Garden has not been forgotten. Not only its outlines are given, but we have specific directions for planting, pruning, &c. Then there are selections of the best fruits, shade-trees, flowers, shrubbery, and climbing plants to complete the whole, and make it in reality, A HOME.

In reading the work, in looking at its attractions, and admiring the genius which we found on every page, and ending only with *"the end,"* we felt that we were admitted to the hearts of the authors, and knew them well. And when we sought them in their seventh story, Jauncey Court, 41 Wall Street, N. Y., we found them not a whit different from the opinions we had formed.

Every person intending to build or alter a house, should own the book, which may be found at Ticknor's, 135 Washington Street, Boston.

For the New England Farmer.

AN AYRSHIRE COW.

MR. EDITOR:—The recent notice in your paper of the Ayrshire cow "Beauty" prompts me to give you a few facts touching my Ayrshire—a cow which, though not graced with the name "Beauty," was perhaps never examined by an admirer of good cows, but he exclaimed, "What a Beauty!"

She was a gift to me, July, 1846, then a three-year old heifer, some two months after her second calf. From five to seven years old, she rose as high as seventeen, and I think, for a short time, upwards of eighteen quarts; I have regretted I did not preserve a critical minute of her yield at this age. Two years ago this season — then almost eleven—*she milked six measured quarts thirty days before coming in.* The calf was dropped April 10, 1854, from which time to Feb. 22 following, (when I sent her into the country to board,) a period of 318 days, her total yield was 2618 quarts, averaging 8¼ quarts nearly per day, and giving nearly *seven and one-fifth quarts* per day, for 365 days—the entire year. I have amused myself with figuring a little farther, and ascertained that this gives 654 beer—798 wine gallons, or 25½ wine barrels. I regret to add, that I lost this cow by milk fever, thirty-six hours after calving, in last June. I have a heifer of promise from her coming three, sired by a premium Ayrshire.

Allow me to trouble you with the remark, that the above cow, some nine years ago, incidentally suggested to me the *mode of stalling*, of which I furnished you a description, and rough diagrams, some year and a half since, over the signature "Pro Bono Publico;" from which, however, the public have derived no benefit — pardon me — it having never been published. But still there is no mistake about that mode of stalling. For upwards of eight years that cow (and others of mine,) had come out of her stall in the morning, with hair as clean as the best dressed mustache in your city. My brother, (named in the description alluded to,) put up fourteen stalls under my direction, in his "Big Stone Barn," in Danvers, some year ago, and without ex-

ception, they confirm my statement touching them, as occupied by oxen, cows and calves from six to twelve months old. My brother values them very highly. Charles Lawrence, Esq., a neighbor, who introduced them into his barn six months since, has expressed to me his admiration of them, and allows me to assure you and the public, if I choose, in his name, that they perfectly answer my promise respecting them. They use chain ties. In honor of my lost cow, please speak of them, if at all, as the "Ayrshire Stall."

Yours, &c., JOS. M. DRIVER.

REMARKS.—We feel obliged to our correspondent for his favors; we did not understand his diagrams sufficiently to come to a clear perception of their merits. Will take them up again.

For the New England Farmer.

GRANITE BEAUTY APPLE.

FRIEND BROWN:—I take the liberty of sending along a specimen of an apple, much prized in this vicinity, the history of which, as related by those "who know," is as follows:—Years ago, when our grandfathers and grandmothers first came to seek them a home in the wilds of New Hampshire, their only mode of conveyance from place to place was on horseback. The grandmother of the family that lived on the farm I now occupy, was one day returning from a visit to her old home and friends, mounted on a slow horse; a long ride was before her, and wishing to accomplish it in one day, she felt the necessity of using means to increase the speed of her pony. Looking about for something that would suit her purpose, she spied by the way side a slender "stripling" of an apple tree, which she plucked, *roots and all*, and came on her way rejoicing. Soon after arriving home, it being the season for setting out trees, and the subject of planting an orchard decided upon, she bethought her of her riding stick; this she took into the little orchard "to be," and with it finished a row of trees, just transplanted. It lived, flourished, and from it were taken the scions that produced these apples.

The tree is exceedingly hardy, naturally low in "stature," flourishes best in a rich gravelly soil, and bears *every year*. They are good for cooking, early, and with good care, keep till into March. I think Cole describes this apple, as what he calls the "Mother Apple;" but as it probably has a different origin, and the name not conveying any idea of the apple, and as it originated as stated above, the admirers of it, in this vicinity, have christened it the "Granite Beauty."

With this history, and with this name, I introduce this beautiful and luscious apple to the public. That the cultivators of nice fruit for home use, and for market also, may know its value, where it is known, I will just say, that in this time of great abundance of apples, when selected Baldwins bring only $1 25 per barrel in Manchester, I can sell the Granite Beauty, for $1 00 per bushel, or $2 50 per barrel I took $5 00, for 2 barrels [at Manchester, week before last. Mine are the largest and nicest that I ever saw of the kind, but others can do the same, if they cultivate as I do, for "what man *has* done, man *may* do," was the motto of the ancient school-master.

I think, in reference to gardening and farming, the old motto ought to be improved, in order to apply truthfully, and read thus—"what man has done, man may *yet* outdo." I am a farmer, and read much upon the subject, and conclude that the A. B. C.'s of farming are not learned yet.

By the way, reading has a curious effect upon my mind, especially the reading of the *New England Farmer*, for it always sets me into a "Brown study." Thine for the earth's best products,

Ware, N. H., Feb. 25, 1856. L. BREED.

REMARKS.—The apples sent were very beautiful in shape, color and flavor, and other things being favorable, ought to be extensively cultivated.

EIGHTH LEGISLATIVE AGRICULTURAL MEETING.

REPORTED FOR THE FARMER BY H. E. ROCKWELL.

The *eighth* Legislative Agricultural meeting was held in the Hall of the House of Representatives, Tuesday evening, agreeably to adjournment. The subject for discussion, as previously announced, was, *"Grasses and the Small Grains."*

The meeting was less fully attended than usual. No member of the Executive Committee being present, Mr. W. J. BUCKMINSTER, in their behalf, invited Mr. HARVEY DODGE, of Sutton, to preside. He said, on taking the chair, the grass crop in Massachusetts was of greater value than that of any other crop in the State. It has been considerably improved within the last quarter of a century, by clearing swamps, by under-draining on clay soils, and seeding in August.

Deep plowing and manuring, as when corn is to be planted, and then sowing herds-grass, red-top and turnip seed, in July, has been beneficial. The sowing of turnip seed has been particularly useful in shading the grass seed during the hot, dry weather of August and September. In the Spring succeeding, a roller will make the surface even. It has been thought that the growth of turnips would make the grass too thin the next season; but it is not so. The rolling should be done when the soil is neither very soft nor very hard. A good crop of grass may be obtained in this way. When grass is sown with oats, it is apt to dry up in the fall after the oats are taken off. He never had an oat crop that paid for raising. He would not speak of the small grains at present, but leave others to introduce that part of the evening's discussion.

Mr. PARSONS, of Ludlow, had had but little experience with regard to the subject. He said the suggestions of the chairman as to sowing turnips with grasses was entirely new to him; it was not practiced by any one in his vicinity. They practiced the rotation of crops, plowing and planting for a few years, and then stocking down with clover. The idea of sowing grass seed with turnips struck him favorably. It is well worth consideration and of experiment, if a crop of turnips is desired, and then a crop of grass for the next summer.

The chairman suggested that he used the Michigan plow, so as to bring the sod, in plowing, entirely under; and then the brush harrow is used instead of the common harrow, and the roller the next Spring makes the surface smooth enough.

Mr. PARSONS said that the soil in his vicinity was natural grass land, and it is devoted almost entirely to raising grass. When corn, potatoes or oats are raised, it is done for the purpose of enriching the land, and then it is stocked down, and the after growth is plowed in. He thought it an excellent plan to stock with clover so as to plow it in to enrich the soil. He generally permitted the clover to become pretty ripe before it is plowed in. Clover is better than any other grass, for that purpose. The farmers in his vicinity cultivated but a small surface, but tried to cultivate thoroughly. It pays better to cultivate two acres of corn *well* than to cultivate three times that quantity, less thoroughly. There is a fine kind of grass which comes up spontaneously in the soil in his vicinity. Sometimes the grass will come in without seeding, thick and fine, on new land, with white clover and red-top, making excellent pasturage.

Mr. DAVID CHOATE, of Essex county, thought the subject under consideration one of the greatest importance. The hay crops are now the best in Massachusetts. Two tons of English hay to the acre pays better than any other crop. The great desideratum is to keep grass lands in good condition enough to produce that amount. The difficulty is, that when manure is applied on the surface, it often evaporates very much. One farmer in his vicinity had mowed a good crop from some of his fields for twenty-five years, without plowing. The Boston market, heretofore, has called for coarse herds-grass; but now, the fine grass is more demanded. Where the Canada thistle grows, it is better not to plow often. Frequent plowing, according to his experience, had caused them to spread very much. He said he was much surprised to see an article in an agricultural paper recently, recommending plowing Canada thistles to destroy them.

He never tried to raise any wheat till last year, when he raised a good crop, by sowing the wheat in drills. It is a slow process, but he thought it paid. Two quarts produced a bushel of good wheat. The wheat which he sowed broadcast, produced but little. Every farmer ought to *try* to raise his own wheat, and to do it if possible. Barley is a good crop in Essex county. It is worth from a dollar to a dollar and a quarter a bushel. They get from thirty to thirty-five bushels to the acre. Barley and Indian corn make an excellent material for bread, and many farmers in Essex county use it considerably, and are quite pleased with it. He had not succeeded in raising two crops of barley in succession, from the same field.

The chairman desired gentlemen to state their experience in plowing in clover, as a fertilizer.

Mr. HOWARD, of Boston, had seen the practice of plowing in clover to a considerable extent. In New York, it is considered the most important means of enriching wheat lands. He referred to an experiment made by the late Gen. HARRISON, at North Bend, in Ohio. The farmers in his neighborhood had been in the practice of plowing in the whole crop of clover. He tried an experiment on twenty-five acres. He mowed a part and plowed in the stubble. A part he pastured and then plowed in; and the crop, for several years, was as good where a part had been cut or fed off as where the whole had been turned in. If a large quantity of vegetable matter is plowed in while full of sap, it becomes acid in fermentation, and is injurious. Some soils are liable to be too loose when there is a large quantity of vegetable matter plowed in. Wheat land needs to be well pulverised and not very loose. Clover roots bring up a large portion of alkali from a great depth, to the surface; and then when plowed in, they furnish the alkali for plants that could not reach to so great a depth. Lands may be enriched, even by the crops which grow upon them. Clover obtains much nourishment from the air, and thus becomes a good fertilizer when plowed in.

As to Canada thistles he thought a good way to kill them was to cause the grass to grow about them so as to smother them. But the best way is to cut them thoroughly as fast as they grow.

Mr. DARLING, of Boston, spoke of the importance of plowing in clover for enriching the soil, as shown in a case he had witnessed in western Massachusetts. The crop of oats obtained was over sixty-three bushels to the acre.

Mr. HOWARD spoke of the importance of using a drilling machine in sowing wheat. Very few farmers in New York now sow wheat broadcast.

Mr. CHILDS, of Waltham, suggested that where he resides, the land is so rocky that they cannot be turned thoroughly with the Michigan plow. They plow in the spring and plant to corn, and then the next year, if they wish to seed down, they plant an early kind of potatoes, and dig them in August, and then sow to grass seed and turnips. They thus get a crop of potatoes and turnips in the same season, and a good crop of grass the next year.

A top-dressing to grass land does best when applied in the spring, when the grass is growing, so as to shade it some. The next best time is in September or October, when the fall rains have commenced. When barley is highly manured, it produces too much straw, and the grass which comes up with it is liable to be too slender to endure the heat and dry weather after the barley is taken off. Rye is raised in Brighton, Waltham and Watertown and vicinity; and it is believed that the straw pays for the cultivation.

The chairman spoke of having visited a farm in

Great Barrington, where, upon the same land, a good crop (about twenty-eight bushels to the acre) had been taken for twenty-eight years in succession. The soil was of a limestone character.

Rev. Mr. FARNHAM, of Boston, spoke of the value of salt-marsh hay. He had been acquainted with salt-marshes in Marshfield and vicinity, from which place much hay was formerly carried into the interior. Recently its value has decreased for some cause, he thought it might be made valuable.

Mr. CHOATE said it was now worth in Essex county, sixteen dollars per ton at the barn, and could scarcely be obtained at that price. They were accustomed to ditch the marshes to the depth of three feet, the ditches being very narrow and running parallel about sixteen or twenty feet apart. There was a great difficulty in getting off the hay, because heavy animals could not go upon the marshes.

Mr. DARLING gave the result of an experiment in raising rye. He sowed one and three-fourths acres upon new land where brush had been burned, in August; he then fed it down, and obtained as a crop, forty-nine bushels of grain and three tons of straw.

Mr. PARSONS had raised on new land, where brush had been burned, thirty bushels to the acre, many times, and from large fields. He had done this when it was sowed from the 20th of October to the last of November; and therefore he questioned whether it was any better to sow in August, on new land. Until the present season, straw had not been worth more than five dollars a ton in Hampden county. But now, as the hay crop is short, it is worth ten dollars a ton in Springfield.

REMARKS.—In the excellent remarks, above, of the Hon. Mr. CHOATE, of Essex, he expresses surprise that an agricultural paper should recommend plowing to extirpate Canada thistles. No persons plow, we believe, in this country, and leave the ground in fallows; but wherever they plow, they cultivate; and if the Canada thistle can withstand this process, it is a more obstinate plant on other lands than on our own.

For the New England Farmer.

MEASURING WOOD.

The shortest way to measure a pile of wood, is to find the height and length of the pile—five feet and six feet, for example—multiply those figures together—thirty feet—and divide by four. The answer is, cord feet—seven and one-half cord feet.

If you have a load on a wagon two tiers, which measures five feet high by three and one-half, multiply these together—seventeen and one-half, and divide by two. Answer eight and three-fourths feet. W. D. B.

Concord, Mass., 1856.

For the New England Farmer.

WARM DRINK FOR COWS.

FRIEND BROWN: — Having been a careful peruser of your paper for several years, and not observing much with regard to warm drink for cows, I will, with your permission, give my experience during the present winter. My cow dropped her last calf August 27, 1855. At the age of four weeks it was taken away. She then gave fourteen quarts of milk daily, and continued to do so as long as the warm weather lasted. When I put her in the barn for the winter, I adopted the following plan for feeding, viz: — 1 pint cob meal, 1 pint rice meal, and 1 quart shorts, with ½ bushel cut hay, twice a day. The quantity of milk decreased daily, until she gave but seven quarts. I had allowed her all this time to drink from a tub in my yard.

I concluded to adopt another method. About the middle of December, I fed her in this manner; 1 pint oil meal, 1 pint cob meal, 1 quart shorts, mixed with *hot* water in the form of a swill, after standing half an hour. I give it to her morning and night, and one-half peck of carrots at noon. All the water she drinks is warmed in the proportion of one quart of warm water to one pailful of cold. At present, she gives ten or twelve quarts daily. Her dry hay is English rowen and husks in equal quantities. F. E. BIGELOW.

Concord, February, 1856.

For the New England Farmer.

THE KING BIRD AND ITS NEST.

FRIEND BROWN:—The February number of the *Farmer* came to hand this day, and, as usual, I have enjoyed the perusal of it very much, and propose to say a few words on some of the articles contained therein.

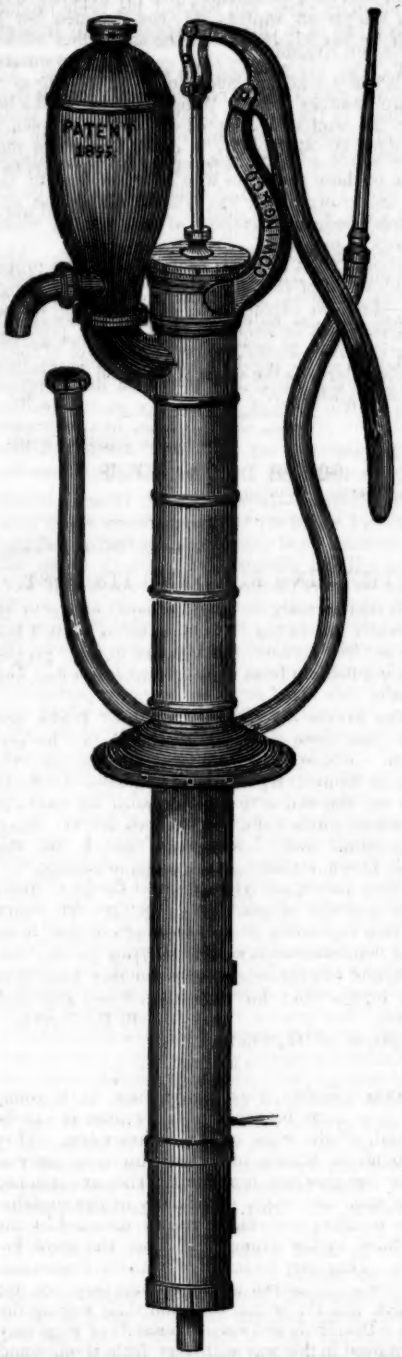
The article on the "King Bird," I like very much, and agree with Mr. Fowler, in all he says, but in one particular trait, and that is, that this bird, so far as I have observed, always builds his nest on the top of a tree, where he can see in all directions, instead of a secluded place. He stands as a sentinel, and is almost sure to give the first alarm to other birds, when an enemy appears.

I have seen them start off from the nest after a hawk that was nearly half a mile off. They built in a tree that stood in the corner of my nursery for more than twenty years, and as long as the tree stood, and so exposed was the nest that it could be seen in the road for more than fifteen rods each way. B. F. CUTTER.

Pelham, N. H., 1856.

CANKER EGGS.—Now is the time to rid young trees, and such branches of older ones as can be reached, of the eggs of the canker-worm. They are found in patches of all sizes, up to as many as one or two hundred in a patch. They are attached to the stem and twigs, particularly in the crotches of the boughs; and can be readily detected by the eye, aided by the strong light from the snow beneath. They may be scaled off with the fingers and destroyed. If thrown on the ground they are apt to hatch, and the worms thus find their way up the trees. Hundreds and even thousands of eggs may be removed in this way with very little trouble, and in a very few minutes.—*Boston Journal.*

ENGINE PUMP FOR WELLS AND CISTERNS.



A good pump on the farm is exceedingly desirable. It ought to be one not easily put out of order, one that will throw water rapidly, that may be readily prevented from freezing, and that can be purchased at a moderate price. The pump figured above promises all these, excepting the moderate price. A majority of our farmers ought to procure a good pump at a less sum than twenty dollars; but if this one will accomplish all that is said of it in case of fire, watering plants, washing windows, &c., they are points which must be considered, and may make this pump really cheaper than many of those now in use. It is manufactured by COWING & Co., Seneca Falls, New York, and they speak of it as follows:—

This newly invented pump we deem the most practical and useful improvement of the age. It is not only adapted to the ordinary uses of a well or cistern pump, of superior and decided advantages over all other pumps, but combines the principles of atmospheric pressure, or suction, with the force pump; and having the patent ventilating air-chamber, is calculated to throw a constant and steady stream, and by simply tightening the nut on the top of the air-chamber, and attaching the hose in the place of the spout, (which can be done in half a minute,) it is at once converted into an engine force pump, and with the power of one man a constant stream of water can be thrown seventy or eighty feet horizontally, or over a two-story house, with ease, and by attaching sufficient hose, water could be carried over the entire premises.

It is particularly adapted as a safe-guard against fire, the washing of windows and carriages, laying the dust, showering the flowers, &c. It is simple, strong and very durable, being made entirely of iron, and it will do good service forty or fifty years, with the trifling expense of a new packing and valve of leather, once in five or seven years, at an expense of twenty cents. The piston rod works through a stuffing box at the top of the pump, making a tight top, which prevents impediments being put in. The plunger or bucket at the lower end works in the cylinder some three feet below the platform, or top of the well, where is a small let-off, which entirely prevents freezing in winter,—provided the well is covered tight.

Directions.— When used as a common pump, with the spout attached, the nut on the top of the air chamber should be left loosened up about two turns. But when used as an engine, with the hose attached in the place of the spout, the nut on the top of the air chamber must be screwed down tight.

The shop price of this pump, including three feet of hose and the discharge pipe, is $20; extra hose, two ply, per foot, 25 cts.; extra hose, three ply, per foot, 31 cts.; extra brass couplings, each, 75 cts.

This pump should be used in wells not exceeding thirty feet in depth. For wells exceeding that depth, there must be an extension of the cylinder or working part of the pump, at an extra expense of 75 cents per foot.

State or county rights for sale.

For the New England Farmer.

RURAL ECONOMY OF THE BRITISH ISLES — No. 6.

COUNTRY LIFE.

Whoever attempts to explain the causes of the agricultural wealth of England, must not omit, as among the most important, the taste of the wealthier and more influential part of the nation for a country life.

This love of a country life is not of yesterday's birth, but dates from the earliest history of the English people, and is part of the national character. Both Saxon and Norman are children of the forest. Combined with a spirit of individual independence, these barbarous races, of which the English nation is composed, had all, instinctively, a turn for solitary life. It was not so with the Italians, the French nor the Spaniards, who early manifested a predilection for town life. From the days of King John to the present time, it has always been among the country or rural population that the true national character was to be found; the fighting people are of the rural districts, not of the towns. The present war is most warmly espoused by the country population. Everybody in England desires to become a landed proprietor; those who make fortunes buy land. When a man has had the misfortune to be born in the town, he tries to conceal it as much as possible. Everybody would be born in the country, because a country life is the mark of an aristocratic origin, and when a man happens not to be born there, he wishes, at least, to die there, that his children may inherit the prestige. Look at a list of the House of Lords, in official publications, it is their country residences, and not their town addresses, which follow their names. It is the same with the members of the House of Commons as with the Lords. All those who have country residences take care to have them indicated as their habitual residences. Appearances in this respect correspond with fact; members of both Houses are scarce more than visitors in London. Show and splendor are reserved for the country, as are the interchange of visits, fetes and pleasure parties.

The English sovereigns show the same predilection for a country life as their subjects, living, as they do, as little as possible in town. Both Prince Albert and Queen Victoria take a real pleasure in farming. The Prince has a farm at Windsor, where the finest cattle in the three kingdoms are bred and fattened. His produce generally gains the first prizes at the agricultural shows. At Osborn, where she spends the greater part of the year, the Queen takes great interest in her poultry yard; and the newspapers have lately announced a cure which her majesty has discovered for a particular disease among turkeys. We may laugh at this, but the English take it very seriously, and are happy to see their Princes thus occupied. I judge the Queen keeps country habits of early rising also, for, the other day, when the King of Sardinia was obliged to leave in the 5 o'clock train, the Queen breakfasted with him at four in the morning.

All the literature of England is marked with this distinctive trait of the English character—love of the country. England is the country of descriptive poetry, most of her poets have lived in the country, and sung of it,—Spencer, Shakspeare, Milton, Cowper, Thompson and Gray.

The beneficial effects produced upon land by the habitual residence of families at their country places, may easily be conceived. In other countries, field-labor goes to pay for town luxury; in England town work pays for the luxury of the country. Almost everything which the most industrious nation in the world can produce, is in England consumed for the benefit of farming. The proprietor takes a pride in his place, and lays out his pride productively; just as in cities, it is spent in folly from example and rivalship.

We, alas, are far from this state of things. Yet improved means of communication make a constant residence in the country compatible with the pleasures of society, cultivation of mind, or even the amusements of town life. Mr. Webster, almost alone of those among us who have removed to the city and grown great, was true to his Saxon and Scotch blood, and the love of the country which belongs to our race.

I should point to three, as above all others prominent causes of the agricultural wealth of England—first, the expansion of commerce and manufactures, which furnishes markets for the products of agriculture—second, to the English love of country life—third, to the spirit of freedom indigenous in the English race. M.

For the New England Farmer.

SOUTH DOWN SHEEP.

MR. EDITOR:—In answer to I. Dimon's second question, I would say the *South Down* sheep combine as many good qualities as any that are adapted to our soil and climate. "The South Down will subsist on short pasture, but well repays full feeding, it attains early maturity, is hardy and prolific, frequently producing two at a birth," producing wool of fair medium quality, and to my eye, the most beautiful in form of any sheep I know. The bucks of this breed seem to be more particularly adapted to crossing with our common mixed merinos than those of the other kinds of "mutton sheep." The first cross of this kind usually produces an animal very similar to the South Down, in form and disposition to fatten; and, if the ewes are fine wooled, with quite an improved fleece. Some of the nicest sheep I know, are what I will call South Down merinos, being large, handsome, and excellent nurses, and yielding good fleeces of wool.

The quantity of grain that sheep require varies so much, depending on the condition of the flock at the commencement of the foddering season, that no definite rule can be given; no animal is more ready to repay, with interest, good care and generous keeping. As a general rule, about one gill of Indian corn per day, with good hay, will be sufficient, but if early lambs are wanted, perhaps half a pint per day would be better, until the lambing season, when oats should be substituted, as they are not so heating. You may gradually increase the quantity to nearly a quart per day, if you want very nice lambs, and if the ewes can have roots in addition, so much the better. Early lambs, from sheep fed and managed in this way, will bring, at four months old, pretty nearly five dollars per head. Lambs that are dropped late can be raised much cheaper, but the market for such is not good.

The Leicesters, Cotswolds, &c., are much in favor with some, and are doubtless good kinds of sheep for some parts of the country; but I am not in favor of over large breeds of animals for New

England. Were I to name the kinds of stock for a farm, I would say a good Morgan horse, Devon or native cattle, South Down sheep, Suffolk pigs, and Dorking or native fowls. By native fowls, I mean those beautiful old-fashioned fowls that were generally found on most farms in New England thirty years ago. But I am getting off from my subject, and will stop before I get to writing my dislike of all over-grown combinations of ugliness and bones.

Rye for early spring feed would no doubt be good for sheep and lambs. I have not tried it myself, but have heard those who have, speak of it in high terms. T. B. BUFFUM.

Newport, 1 mo. 3, 1856.

For the New England Farmer.

NIGHT SOIL—GAS LIME.

MR. EDITOR:—Every farmer has some method by which he performs his labor; he plows his ground about such a time, and about such a depth, and uses about so much manure to the acre. He is either governed by his own judgment, or by the way his father did before him, or by his neighbor, or, perhaps, by some theory advanced in some agricultural journal which he may read.

Now, what we all need, is the *right* method, or that method, by which from a given amount of labor and cost, we can attain the greatest results.—We need more light, more freedom of opinion, a greater interchange of expression in our agricultural experiences. I have enjoyed much pleasure, and derived some benefit, I trust, in perusing the *Farmer* the last three years, and although there has been some opinions expressed, some theories advocated, which I could not endorse, yet, if farmers in general were to adopt and practice much that comes to us in it, we should not only be wiser, but it would soon be manifested by our elongated purses.

But my object in writing, is, to gain some information. Living in the outskirts of a city, I hauled and mixed with other manures, last winter and spring, some thirty or forty loads of night soil. Now I wish to inquire if you or any of your correspondents can tell me its relative value compared with other manures, and for what kinds of soil it is best adapted. (*a.*) The course I pursued with it was to mix it in the spring with the barn-yard manure, (say one part of the former to five of the latter,) hauled out the fall previous, a large share of which was poor soil carted into the yard as an absorbent. It was then plowed in for sugar beets, carrots and onions, and mostly plowed in for corn, but a little was put in the hill to give it a start in the first part of the season. I used about twenty cart-loads to the acre, and had good crops. But if others have used it more successfully by a different management, I should be happy to hear of it.

Will you please inform me of the nature of leached lime, and if of any value for wheat crops, and for what kind of soils it is best adapted. (*b.*)

Newburyport, Jan., 1856. J. M. M.

REMARKS.—(*a.*) We should judge that the night soil you speak of, *mixed with other manures*, ought to afford the highest fertilizer that can be found, and if applied plentifully, on good land, would produce seventy-five bushels of corn to the acre.

(*b.*) If by "leached lime," you mean gas lime, that is, the refuse lime of gas works, it should not be wasted. Some writer says it may be used with good effects under the following circumstances:

1. It may be used directly upon mossy land, upon naked fallows, and in spring, when preparing for turnips.

2. In composts, in which the whole of the soluble salts of lime will have a tendency to be converted into gypsum by the action of the air; and consequently the benefits which result from a large application of gypsum will be obtained by laying such composts upon the land.

3. As it appears to contain only a small proportion of caustic lime, it may with safety be mixed at once with barn-yard or other animal manures, though not in too large quantity. It may also prove a valuable admixture with guano, on which its action would ultimately be to fix rather than to expel the ammonia.

4. Strewn sparing over the young turnip plants, it is stated that it prevents the attack of the turnip fly; and harrowed in, when the ground is naked, if the quantity be considerable, slugs and wire worms disappear from its effects.

5. If applied in too large quantity, it is liable to be injurious to crops of young grain. But grass lands, though at first browned by its application, soon recover and repay the cost by yielding a greener and an earlier bite in the spring.

For the New England Farmer.

SNOW-BOUND FRUIT TREES.

MR. EDITOR:—How is the mild weather affecting our snow-bound fruit trees? The snow in most sections is so exceedingly drifted as to bury the lower branches of even our largest fruit trees. Farmers are well aware of the effect of a thaw under such circumstances; the snow becomes more and more condensed, and presses the branches farther and farther down; the dark color of the bark draws the heat of the sun, and the surface snow close home to the buried branches is thus melted, and the water taking the submerged part as a spout, runs down till it congeals, when a frozen crust is formed beneath the surface, which bolts them down in the snow-bank, and the branches are now ice-bound as well as snow-bound. Under this double attachment they must succomb; they gradually separate from the tree, and usually break off close home to the parts from which their growth commenced, taking with them a full share of bark. When Spring returns, the unfortunate fruit-grower, in the midst of his injured trees, learns a lesson that he will not soon forget, provided such an old-fashioned winter returns often enough to jog his memory.

I was impressed with the importance of examining fruit trees, just now, by seeing to-day on a hill-side a young Northern Spy which had been robbed of half its wood by the above process, besides having the bark below torn off in long strips half-way around the trunk. On looking further, I found the branches of a larger tree deeply buried in the snow,

and one of them, about two inches in diameter, drawing like a bolt from the parent tree. What should a stranger do in such a case,—leave things to their natural course, and the owner to learn a lesson when Spring returned? No, Mr. Editor; true, in one sense it was none of my business; but in a higher sense it *was* my business, if I have read the Bible correctly; besides, a fruit tree is too noble and generous a thing to see it injured without a feeling of regret, and an impulse to save it. So I set to work, and in fifteen minutes had the pleasure of liberating a fine tree from the grasp of the snow king. The branches sprang out of their chill prison with a bound that seemed like joy, and I felt that I was thanked. For the future, I shall regard that tree with additional interest.

If the views at the close of this article are correct, every one will see that they have a far wider application than is here made of them. J. G.

Marblehead, Mass.

For the New England Farmer.

ORNAMENTAL GARDENING.

Ornamental gardening is one of the fine arts. It is classed with painting, and sculpture and architecture. It is justly reckoned with those arts, for it is founded upon the same principles in the mind, and calls into exercise the same powers. The love of the beautiful, of fitness, of harmony in form, in color, and proportion, are the basis of all the fine arts. Ornamental gardening was formerly one of the luxuries of princes and nobles. Poets and travellers tell us of the beautiful gardens of the east—of the groves of spices, and the fields of roses—the avenues of trees, and walks bordered with flowers, the grottoes, and arbors, and water-falls, which adorned them. Ornamented grounds were no less valued than painting and statuary. Indeed, painting and sculpture and architecture were put in requisition to ornament the garden. No palace was completed, until the grounds were wrought into forms of beauty, and covered with the beautiful forms which spring from the bosom of the earth. But ornamental gardens are no longer a luxury confined to the great and the noble. The increase of intelligence, and taste and wealth, have converted many things that once were luxuries into the comforts and even necessaries of life. Every man who cultivates even a small patch of ground, and who has a taste for beauty, can ornament his culture; can mingle with those plants which are sweet to the taste, and which are designed to nourish the body, such as are pleasant to the sight, and such as shed an agreeable fragrance around him. In Europe, ornamental gardens are laid out by artists, and cultivated under their direction. An artist is there as indispensable as an architect. Several gentlemen in this country are devoting themselves to the cultivation of the art of landscape gardening, and are doing much to promote ornamental and tasteful culture in the vicinity of our large cities, and much to improve the public grounds of the cities themselves, and thus to cultivate and gratify the taste of the citizens.

Men of wealth, and those who have little knowledge of cultivation, and little time to devote to it, and who wish to create rapidly a world of beauty around them, may employ the artist. But every farmer should be his own artist. Nature has implanted in every man, the love of the beautiful, and every man should cultivate the taste which nature has given him, and it will become to him a source of pleasure and enjoyment. Every man cannot paint, but every man can make a picture. The farmer has not time, or patience, or the cultivated taste necessary to success in painting. But the farmer can make a beautiful garden, and what more beautiful picture can anywhere be found, than a well-arranged, well-cultivated garden? The cultivator can make a garden anywhere; among the rocks, upon the steep declivity, he can form a terrace; by the side of the brook, around the pond, or along the borders of the marsh, he can make beautiful flowers spring up. He can plant flowering shrubs, or climbing vines, or fruit-bearing trees. He can form beds of rich vegetables, and borders of roses, or pinks and verbenas. He can arrange them in straight lines, or curved lines. He can form them into parallelograms or squares, into circles or ellipses, into triangles or hexagons, into any forms that may please his fancy, or best suit the nature of the ground. He may so arrange the vegetable forms that spring from the soil, and which are beautiful in themselves, and so combine their shade and hues, as to increase and brighten the beauty of the whole. And he can set the picture in a beautiful frame. He can surround his garden with trees—evergreens, forest trees and fruit trees, so arranged as to give shade to those plants that require it, and to protect all from the cold winds. By doing a little at a time, by adding one improvement after another, and one beauty after another, every farmer may, in a few years, create a beautiful scene around him that will amply reward all his pains.

A garden thus formed by degrees, is much better than one produced at once, and by a large outlay of labor and money. The pleasure of creating it is prolonged, and the expenditure being but little at a time, is not felt, and in this way, new flowers, and vegetables and fruits are added from time, that yield new pleasure, and add new beauty to it. A beautiful garden is a source of pleasure to the family. The wife and children can here indulge their taste, and study the beautiful forms and wonderful instincts of nature. It is one of the most fruitful sources of instruction. The farmer can here bring his children around him, and speak to them of the wisdom, and skill and benevolence of the Creator. He can dissect flowers, and plants and seeds, and show their curious structure, and how wonderfully nature has provided for their preservation.

This is that one of the fine arts which the farmer can cultivate. It is the one that is suited to his condition and circumstances, and by the cultivation of it, he can gratify the love of beauty that nature has given him; and while he is gratifying this love, he is improving his intellect and his heart. The mere allusion to this part of the subject will suggest a multitude of pleasant thoughts to the mind.

The cultivation of a garden is a source of recreation to the farmer. His strength and time are severely taxed in cultivating the staple products of the field. Like all men, he needs relaxation and recreation. Where can he find it so well as in his garden? It will make him fond of his home. It will keep him from temptation. Instead of seeking pleasure in the store and the tavern, he will find it in his home. How many a young farmer, had he early commenced the cultivation of a beautiful garden, would have been saved from ruin.

This is a subject that needs to be urged upon the community. Every improvement in agriculture meets with opposition, and works its way slowly into use, especially if it does not yield immediate profit. Editors of agricultural papers have a work to do with regard to this matter. They must press it upon the attention of the cultivators of the soil. Every man of taste should seek to interest his neighbors, and especially the younger portion of them, in the subject. By-and-bye it will take hold upon the public mind, and add greatly to the beauty of our land, and increase our attachment to our beloved country. It will surround our homes with associations of beauty, and memories of pleasure and joy, that we shall carry with us wherever we roam, and that will never forsake us, till we lie down to our final repose in the bosom of the earth. R.

Concord, February 20th, 1856.

For the New England Farmer.

SMALL MATTERS WORTH KNOWING.

BY PROF. J. A. NASH.

Corn planted three feet apart each way, gives 30¼ hills to the rod, 4840 to the acre, and 48,400 to a ten-acre field. Allowing 5½ hills to the rod for the worms and crows, it would leave 25 hills to the rod, 4000 to the acre, and 40,000 to a ten-acre field.

Planting four feet apart each way, gives 19 9-64 hills to the rod, 3062½ to the acre, and 30,625 to a ten-acre field. Whether the crows and worms would find as many hills four feet apart, is not a matter for mathematical calculation, but supposing they should destroy 62½ hills to the acre, there would be left 19 hills to the rod, 3000 to the acre, and 30,000 to a ten-acre field.

It is manifest that about 4000 hills are to be expected from 3 feet planting, and about 3000 from 4 feet. A pint to a hill on the 3 feet planting, will give 62½ bushels to the acre. A quart to the hill, (and I would quite as soon undertake to get a quart from 4 feet planting as a pint from 3 feet,) will give 93¾ bushels, allowing 4000 hills to have escaped all accidents in one case, and 3000 in the other. The corn plant seems to have no objection to two or three very near neighbors; but it wants all others to be remote:—as if it would say to anything within less than four feet, except its bosom companion of the same hill, as Diogenes in his tub said to King Philip—"out of my sunlight."

Owing to this strange sort of propensity, if I may so call it, or rather owing to unknown causes—possibly to the generation of vegetable warmth, as pigs profit by each others' animal heat in a cold winter's night—four stalks of corn will grow quite as luxuriantly in the smallest space possible, as one of them would have grown alone; but are annoyed and put back if other hills are too near. Nothing is lost by planting the kernels in a hill thickly together. I would as soon have a corn-planter that should leave them in actual contact, as one that would scatter them over a square foot. Whether, like the pigs, they keep each other warm, by close packing, each generating a kind of vital heat, by which all the others are benefited, or what may be the true cause, I know not; but the fact is certain, that three or four stalks in a circular inch will do as well, and each will put forth as extended roots and as broad leaves and as long stalks, and just about as many and as full ears as if there were but one.

It would seem as if there was an influence of corn plants upon each other, calorific, electrical or some other, not yet known, favorable within short distances only, and that for this reason, whatever it may be, nothing is lost by putting the seed in juxtaposition. But much has been lost in this country, both in the increase of labor and in the diminution of crop, by planting the hills too thickly. Four feet each way, giving in round numbers, 3000 hills to the acre, is the best distance. If the corn be of a very small kind, it may be nearer together. But who wishes to raise such corn, unless it be in some cold mountain region, much exposed to May and September frosts? Or if you wish to grow a corn crop on hard, uncomfortable land to till, it may be well to fill the soil with manure and plant 3½ feet instead of 4, calculating to raise the heat of the soil by the fermenting manure as a sort of compensation for shutting out the sun, and so to get your allowance of corn by the cultivation of as small a piece as possible. But in proper corn land, ordinarily manured, 4 feet planting *will give more corn with less labor.*

In 3 feet planting, the length of row is 5½ rods to the square rod, 880 rods to the acre, and 8800 rods to a ten-acre field. In 4 feet planting, the length of row is 4½ rods to the square rod, 660 rods to the acre, and 6600 to a ten-acre field. To plow out, or to cultivate a ten-acre field, planted at 3 feet, twice to a row, the horse walks 55 miles; in plowing ten acres, at 4 feet, he walks 41 miles, 80 rods.

In planting a ten-acre lot, at 3 feet, the planter walks 27½ miles. In planting the same, at 4 feet, he walks 20 miles, 200 rods. If in planting in the old way with the hoe and pouch, it requires five distinct motions to a hill, it will require 242,000 for a ten-acre lot, at 3 feet; and 153,625 for planting the same at 4 feet. On land not uncommonly feasible, the latter would be ten good days' work; and the former, at the same rate of time per hill would be upwards of sixteen; but as one would plant hills near each other in a little less time, say fifteen.

If there should ever be brought into use a horse-planter, which would plant two rows at a time, and be so light of draft as to be easily drawn by one horse, and would yet do its work well, this work could be done in one day by a single horse and a man. The travel, in case of 3 feet planting would be 14¼ miles; and, in case of 4 feet, would be 10 miles, 100 rods.

The expectations of such a planter would appear *visionary* to most men; and so did that of a steamboat to the cotemporaries of Robert Fulton.

J. N.

For the New England Farmer.

WILLOW FENCES.

MR. EDITOR:—"A. B." inquires through your paper concerning willow fences. Now I have had some experience that way, and am willing to tell him what little I know about it. I should say that some varieties of the basket willow are good for fences,—the strongest growing sorts that are used for osiers, such as the "Beveridge;" I think they will do well in land that is tolerably moist. The ground should be prepared by spading and manuring, and the willows should be kept free of weeds and grass until they get a good start. I put them about twenty inches to two feet apart, though I

think they would do well as near as a foot. The strongest cuttings I could get were from the use of wood three or four years old, and set them a foot to fifteen inches in the ground, and three to four above; but unless the ground is moist, many of them will die in this way; it is better to cut the tops shorter. If it does well, in four or five years it will make a pretty good fence. Cattle will not browse it much only on the sides. A great deal of good willow for basket-making could be raised in this way on division fences. I have some such fence, but I planted poor sorts of willow years ago, before I was posted up in these matters.

Newton Centre, Jan., 1856. J. F. C. H.

NINTH LEGISLATIVE AGRICULTURAL MEETING.

REPORTED FOR THE FARMER BY H. E. ROCKWELL.

The *ninth* Legislative Agricultural meeting was held Tuesday evening, as usual, in the Hall of the House of Representatives. The meeting was called to order by Dr. FISHER, of Fitchburg, at half-past 7 o'clock, who announced that the subject for discussion would be, "*Indian Corn, as a grain and as fodder.*" He then introduced Hon. JOHN BROOKS, of Princeton, as the Chairman of the meeting.

Mr. BROOKS spoke of the relative importance of the corn crop, which he considered quite as valuable, as a crop in Massachusetts, as in any other State. The average crop in this State is from thirty-one to thirty-five bushels to the acre, and the price at which it is sold makes it more profitable here than in Illinois, where they raise on an average not more than thirty-six bushels to the acre. He then urged gentlemen present to give their views on the subject as announced, or to state any fact having a bearing on the subject of corn culture, every *fact* being of importance to farmers.

Mr. FAY, of Lynn, stated some of the results of his experience. He considered corn as a hungry feeder, and therefore he wanted to have the land in a high state of cultivation. Generally, he planted on land which had been in grass; and he plowed in the fall, and in the Spring put about twelve cords of manure to the acre. He planted about three and a half feet apart in drills, striking out the drills with a plow, and dropping the corn without reference to hills; and he did not hill up the corn by hoeing, but used a cultivator. The best manure was that which had been composted in winter, or plowed in to the ground in the fall preceding, so that it might compost in the soil.

The addition of plaster, at the rate of one hundred pounds to the acre, or of ashes, will always increase the crop, even though the ashes have been leached. He had found little difference in the effect, whether the ashes were applied after the corn had come up, or were put in the hills before.

As to the time of cutting, he said he cut as soon as it is glazed, and stacked it up in shooks and allowed it to cure in that way. After it is brought into the barn, and the corn removed, the stalks are salted when put away for fodder. In feeding it out, he cut the stalks very fine, added a little meal and water, and allowed it to stand and ferment forty-eight hours. He had never seen cattle kept on so little fodder as by this method of feeding. Cattle of all kinds feed upon it greedily.

AMASA WALKER, of Brookfield, was glad to believe that more and more attention was being paid to the cultivation of corn, and especially to the use of stalks for fodder. There is a necessity for providing something to meet the failure of the grass crop by drought, which often occurs in August; and corn is well adapted to the purpose. The manure best suited to corn is that which has been somewhat fermented. Barn cellars for composting, were becoming very common in his vicinity, he said, and more efforts are made to secure all the manure possible. He said that during the last year he had tried phosphate of lime, which had a wonderful effect, making a hundred per cent. difference in the crop. The phosphate used was that manufactured by DeBurg. Many farmers in his vicinity had tried it, and in all cases it proved successful. He had found it valuable on grass land with a clay soil. The line where the phosphate of lime was sown was perceptible as far as the field could be seen. He found that its effects appeared to be increased in proportion to the amount applied, which is not the case with guano. The first crop of grass was from twenty-five to thirty per cent. better where it was applied; and the second crop was a hundred per cent. better. If the quality of phosphate can be kept as good as that used in his vicinity, it would prove exceedingly valuable as a fertilizer. In answer to an inquiry, Mr. W. said he applied four hundred pounds to the acre of corn, putting it into the hill with the corn. The great argument in its favor is that it is so simple and easy of application, and much more safe than guano, there seeming to be no risk in its use.

Mr. MOSELY, of Westfield, spoke of his experience in the use of guano. Five years ago he got a ton of genuine Peruvian guano, and sowed about three hundred pounds to the acre on old pasture land, as poor as any in the world, and harrowed it in thoroughly, and then brushed the land, and then planted his corn. He did not think a hill failed to come up, and by its application he got twenty bushels more to the acre. The next year he sowed one hundred and fifty pounds to the acre, and it gave him twenty-three bushels to the acre additional. He had found three hundred pounds to the acre better than a hundred loads of manure. If he was to have one hundred dollars worth of common manure or three hundred pounds of guano offered him, he would prefer the guano. He had found it useful when applied to corn for two years in succession. He cautioned those present to be sure to

get the Peruvian guano, for he could not warrant any other; but that he considered it a perfect manure. He raised two hundred bushels of corn this year on land that would not have borne white beans by the use of one ton of guano. [Quantity of land not stated.] The guano was applied in a finely pulverized state. He carried it into the field in that state, and mixed it with some of the earth of the field, whatever it might be, and then sowed it. In answer to a question from the chairman, he said the average crop was fifty bushels to the acre in his vicinity, and where manure is applied freely and guano used, they get from sixty to seventy-five bushels. When asked what was the average cost of cultivation to the acre, he said he had made no figures, and rather humorously suggested that if a farmer were to do that, he would fail twice in a year, a statement which produced incredulous smiles.

Mr. WALKER further urged farmers to try the use of the phosphates and of guano more, with care to record the results of their experiments. He was earnest in his advice to cultivate corn more.

Mr. COOLEY, of Conway, found corn the most profitable crop he could raise. He raised it on the same field two years in succession, the first year applying twelve to fourteen loads of compost—half muck and half barn-yard manure—to the acre, and the second year, applying twenty-five loads to the acre; he obtained seventy bushels to the acre, which weighed in January sixty-four lbs. to the bushel. According to his calculations it cost him forty-eight cents per bushel.

Mr. OSGOOD, of South Reading, thought there had not been sufficient attention given to raising corn for green fodder. He said that he had formerly been employed in buying butter and cheese for the Boston market, and always found the best to be produced where farmers fed green corn in the case of failure of their pastures. Last year he planted a piece of very poor land,—pine plain land—and applied a compost of night-soil and coal ashes, and raised as fine a piece of corn for fodder as he had ever seen. On a part of the same land, he applied well-rotted, barn-yard manure, liberally, and the crop was not as good as in the other case. On feeding green corn as fodder, he had found his cows to increase in their quantity of milk, giving nearly as much in the fall as when fed in the pastures in June.

Mr. EMERSON, of Boston, wanted to have some information as to the best kind of corn to be planted. Last year he planted a kind of eight rowed corn, which did not get ripe on his farm, which is in New Hampshire.

Mr. WALKER recommended the use of the kind called the King Philip corn. His own ripened thoroughly, and was ripe sooner, by a fortnight, than that of any one in the town. It is a productive corn also.

Mr. DODGE, of Sutton, had been experimenting with a small kind of corn, which he called Tip corn. He planted it in drills, and quite thick; he procured a large crop. He had found an objection to the King Philip corn that it had a large stalk, and sometimes it did not ripen on his land. There is a singular fact, that while all crops of the root kind have deteriorated, corn, which is indigenous here, maintains its character. He knew of one farm where the same kind of corn had been planted for seventy years, and never changed or mixed at all. He had found corn to be his most profitable crop. Many farmers say they cannot afford to raise corn. But corn can be raised for fifty-eight cents per bushel. If so, it is a profitable crop in this State.

Pork can be made from corn, and the raising of pork will help in increasing the manures. He had not been successful in the use of the phosphates. In the purchase of guano, he had reason to believe that farmers were often imposed upon. He spoke strongly in favor of corn fodder for cows. He knew the cow of a neighbor that gave a good quantity of milk through the winter and appeared well in the spring, having been fed only on corn stalks.

Mr. W. J. BUCKMINSTER thought too much could not be said in favor of the cultivation of corn. Nothing makes a farmer feel so rich as a good crop of corn. He exhibited some specimens, which he supposed to be the Brown corn, which was very handsome indeed. It is an eight-rowed corn, with a small cob and stalk, and filled out perfectly at the tip.

He sowed considerable corn in drills for fodder and some broad-cast. In both cases, he obtained a large crop. In curing, there is a danger of making the stalks too dry. Even if they mould a little, cattle will eat them better. For fodder, he was rather in favor of the sweet corn. Gen. CHANDLER, of Lexington, had told him, he said, that he had raised a certain kind of sweet corn for twenty years, and he had found it very excellent. His cattle will pick out the stalks of sweet corn from a mixture of different kinds, showing that they prefer it.

Mr. HOWARD, of Boston, spoke of the varieties of corn which are recommended. Among them he said there was one which had obtained great celebrity under the name of the Wyandott corn. But it has been known in Western New York as the Tuscarora corn, and it is of a white and tasteless kind. The earliest kind of sweet corn is known as the Darling corn, from the late Judge DARLING, of New Haven, Connecticut. It is very sweet and very early.

TO CORRESPONDENTS.—A beautiful article on "Woman's Influence" in rural life, by a lady, one on agricultural affairs in Nova Scotia, and several others on various topics, have been received and will be given in due time.

For the New England Farmer.

PORTRAITS
FROM THE FIELD AND FARM-YARD.

BY WILSON FLAGG.

THE BLUE JAY.

If we visit any part of our forest, or if we live near an extensive wood, in the winter, we are sure to be greeted by the voice of the lively Blue Jay, another of our well-known winter birds. He is recognized by his elegant plumage of different shades of blue; his pale azure crest and head, adorned with purple silky plumes; his black crescent-shaped collar; his wing or tail of light blue, with stripes of white and black, his harsh voice, and his lively and querulous manners. A constant resident in our woods, his voice may be heard at every season; but like that of the crow, it attracts particular attention only in the winter, when the most of the birds are absent. He is a true American, being known throughout this continent, and never visiting any other country. Though a beautiful bird, the farmer, who is well acquainted with his thieving habits, is no friend to him; for he takes not only what is necessary for his immediate wants, but hoards nuts and grain in large quantities for future use. When engaged in his foragings, he is in general extremely noisy; but as proof of his wariness, when he ventures into the barn to take what does not belong to him, he is silent and stealthy, and exhibits all the peculiar manners of a thief.

The Blue Jay is never absent from our woods, and in the winter, like the Chickadee and the Woodpeckers, he seems greatly to enliven them by his loud notes and his brilliant plumage. At this season he has no opportunity of doing mischief, either by plundering the cornfields, or by robbing the smaller birds of their eggs; and as most of the trees are leafless, he is more easily seen, and hence there seems to be a greater number of Jays with us in winter than in summer. His characteristic traits are extreme activity and irascibility. He is never still, and always seems like one who is out upon some expedition. His irascibility is particularly manifested when one ventures near his nest. I found a nest of this bird when I was a boy; and on climbing the tree to examine its contents, the old birds flew round me, aiming their blows at my face and eyes with so much determination that I hardly dared to stay long enough to ascertain the color of the eggs. At the same time they raised such a hue and cry, that in less than a minute a dozen others had assembled, and commenced screaming at me with a vengeance which I had never before, and have never again experienced. I have ever since that time been persuaded that the Blue Jay has but little of the meekness of a dove, and that it would never tamely submit to molestation or injury.

At certain times I have heard this bird utter a few notes that somewhat resemble the tinkling of a bell, and which, if syllabled, might form such a word as *dilly-lilly, dilly-lilly*; but the strain is not considered a song. Indeed, there is nothing musical about him, as in all his imitations of other sounds, he seems to prefer the harsh to the melodious, such as the voice of the hawk and the owl and other noisy birds. He seems to have considerable talent for mimicry, often exercising it in a wild state, and still more when caged and domesticated. He may then be taught to imitate human speech, like the parrot, to counterfeit certain mechanical sounds, to frighten the cat, and whistle after the dog.

The Jay is an industrious consumer of the larger insects and grubs, and in this way atones for some of the mischief he performs. In this respect, however, his services are not to be compared with those of the crow, or the birds of the woodpecker tribe; but he is one of the most cheering tenants of our woods at a season when they have but few inhabitants. It is not often that we are led to reflect upon the extreme loneliness that would prevail in the fields and woods, in winter, were all the birds to migrate, at this season, into a warmer climate, or go into a state of torpidity, like the frogs, dormice, and other smaller animals. But the beneficence of nature has provided that certain birds should be endowed with power to endure the cold, and with a faculty of providing for their wants, at a time when it would seem that there was not sustenance enough in the woods and fields to keep them from starvation. The woodman, however insensible he may seem to the charms of all such objects, is gladdened and encouraged in his toils, by the sight of these active creatures, some of which, like the Jay, are adorned with the most beautiful plumage, all pleasantly garrulous, and filling the otherwise silent woods with constant and vociferous merriment.

To those who look upon nature with the feelings of a poet or a painter, we need not speak of the value of our winter birds as enliveners of the landscape. Any circumstance connected with scenery that exercises our feelings of benevolence, adds to the picturesque charms of any prospect; and no man can see a little bird or any other animal at this season, without feeling a lively interest in its welfare. The sight of a flock of Snow-buntings, descending like a shower of meteors upon a sedge-field, and eagerly devouring the seeds contained in their drooping pannicles that extend above the snow-drifts; of a company of Crows rejoicing with noisy sociability over some newly-discovered feast in the pine wood; of the little speckled Woodpeckers, winding round the trees, and hammering upon their trunks, all these and many other sights and sounds are associated with our ideas of the happiness of these creatures, and while our benevolent feelings are thus agreeably exercised, the objects that cause these emotions, add a positive charm to the dreary prospects of winter. These reflections have always led me to regard the birds and other interesting animals as having a value to mankind which cannot be estimated by dollars and cents, and which is entirely independent of any services they may render to the farmer and the orchardist, by preventing the over-multiplication of noxious insects.

Brookfield Farmers' Club.—This association, recently formed, held its 1st public meeting Wednesday evening, 5th inst., O. C. Felton, Esq., President. The addres, on the occasion was delivered by Hon. Amasa Walker. This society also embraces the iterests of mechanics as well as farmers, and they have united in this club. The prospects of its successfulness, we understand, are very promising. There is room for a great many more, and we hope, from time to time, to be able to record their existence.

BLUE JAYS DESTROYING ROBINS' EGGS.

For the New England Farmer.

RURAL ECONOMY OF THE BRITISH ISLES—No. 7.

CUSTOM REFORM AND HIGH FARMING.

We have shown the principal causes of British agricultural wealth. First, among these, is the strong predilection of all classes, especially the rich, for a country life. Next, political liberty, with its blessed fruits, as necessary to the prosperity of all industrial life, as is the pure atmosphere we breathe, to human life. Next, the immense commercial and manufacturing development, which, in England, furnish such materials for agricultural produce.

Our view of British agriculture is very imperfect. But we will now advert to two circumstances in its development, which astonish every observer, to wit, the customs reform, or repeal of the corn laws, and high farming, so called.

British agriculture was long protected by duties on foreign wheat, and this protection was thought to be essential to its existence. But some six or seven years ago the British corn laws were repealed, and British agriculture flourishes and has flourished since their repeal, as much as before, and without, in general, a diminution of the rents of the landlords, or of the wages of agricultural labor. The exports of other countries, especially of the United States, of agricultural produce to Great Britain, have increased enormously, since the repeal of the corn laws. Yet British agriculture flourishes, and gives indications that it will continue to flourish, with the gates of its islands open to receive the surplus produce of the world. Perhaps no one can account for this by naming few or many reasons. But among the causes which have sustained British agriculture, thus brought into competition with that of the world, has been the increased consumption of agricultural produce by the poorer and middle classes, since the repeal of the corn laws; but, more than this, the fact stands out prominent above all others, that the British agriculturists have met the crisis of the customs reform, not with faint hearts, but by allowing more capital to their lands than ever before, and by applying more skill and thought to agriculture than ever was applied before they commenced *high farming*.

Under their trial, the industrious spirit of Englishmen was set to work, with a will. First, they studied anew the character of their soil, of which they saw that nearly half was wet and clayey, and they applied themselves to the problem of drainage, and solved it. "What is the meaning of this small hole at the bottom of a flower-pot?—to renew the water. And why renew the water?—because it gives life or death; life, when it is made only to pass through the bed of earth, for it leaves with the soil its productive principles, and renders soluble the nutritive properties necessary to nourish the plant; death, on the other hand, when it remains in the pot, for it soon becomes putrid, and rots the roots, and also prevents new water from penetrating.' The theory of drainage is here exactly described.

The new invention consists in employing cylindrical tiles of burnt clay to carry off the water, instead of open ditches, or trenches filled with stones or faggots—methods known even to the ancients. These tiles, which are a foot or more in length, are placed end to end, at the bottom of trenches which are filled in with earth. It is difficult, at first, to understand, without having seen the effect of these tiles, how the water can get into them and so escape; but as soon as one sees a drained field, not the smallest doubt of the fact remains. The tiles perform the office of the small hole always open at the bottom of the flower pot. They attract the water, which comes to them from all parts, and carry it out, either into drain-pits or main drains, where the inclination of the land admits it. These tiles are made by machinery of various dimensions, and laid in trenches, at a greater or less depth, and more or less apart, according to the nature of the soil and the quantity of water to be drained off. The total cost of purchase and laying is about $20 to the acre. It is considered that this outlay is money invested at ten per cent., and the farmers scarcely ever refuse to add to their rent five per cent. per annum on the proprietor's outlay for draining. There is something magical in the effect of draining, both upon arable lands and meadows; but it may be carried too far on grass meadows. In meadows, marsh plants disappear and the hay is more abundant and of better quality.

On arable lands, even the most clayey, wheat and roots shoot more vigorously and are healthier, and less seed is required for a larger crop. The climate itself gains sensibly by it. The health of the inhabitants is improved, and the mists of the foggy island seem less thick where draining prevails. Two million and a half of acres are already drained, and everything promises that, in ten years, the whole of England will be so. It is, as if the island were once more rising out of the sea.

The second improvement in farming, which dates from the last few years, is a large increase in the employment of machines, and particularly of steam. Previously to 1848 few farms possessed a steam engine. One may safely say that, in ten years, the exceptions will be those without them. Smoking chimneys are to be seen in all parts of the country. These steam-engines are used for thrashing wheat, cutting fodder and roots, grinding oats and oil-cake, churning, raising and distributing water; and their heat serves to prepare food both for man and cattle. Some moveable steam engines go from farm to farm to do heavy work. Machines for mowing and tending hay, reaping and digging, are now under trial. The great desire, at present, is to find means for turning up the soil to a depth hitherto unheard of, in order to give greater vigor to the arable bed.

I have already stated that the pasturage of cattle is held in high repute in England. But there is a process going on, which is at variance with all English habits, and encounters much opposition, and this is the stall-feeding of cattle, or stabulation, as it is called. The efforts making in this direction are very systematic and thorough. A cattle-house is provided, thoroughly aired, usually constructed of open planking, with mats of straw for a roof, which are raised or lowered at pleasure for the purpose of sheltering the animals from wind, rain or sun. The cattle stand loose in boxes; the floors are pierced with holes, to allow their evacuations to fall into a trench below. Beside the cattle is a stone trough containing water and others containing food. Where the cattle are intended for the butcher, the food is sometimes composed of chopped roots, bruised beans, crushed oil-cake—sometimes a mixture of chopped hay, straw and bruised barley—the whole more or less boiled in large boilers, heated by the steam-engine, and fermented some hours, in closed

vats; for milch cows the food is green grass and fodder. The manure being accumulated in the trench beneath the house, is occasionally sprinkled with earth or other absorbents, so that the absence of all smell in the sheds is remarkable. It is affirmed that the extension, by this process of stabulation, of the culture of roots, pulse crops and artificial grasses, on the pasture grounds, really gives two or three times more food for cattle.

Another feature in English farming of modern origin, is the process by which the evacuations of the cattle, after falling into the trenches, under the stalls, pass through pipes into a reservoir, where they are mixed with water and fertilizing substances, and from thence driven, by the steam engine, through a system of underground pipes to the extremities of the property. At distances of every fifty or sixty yards are placed vertical pipes and a gutta-percha tube fitted on, and a man, boy and the steam engine are able to manure five acres a day. Great results have followed this system of manuring; but it is yet only adopted by the few more ardent, enterprising and wealthy agriculturists. These are the general features of the present agricultural revolution, called high farming; introduced by the repeal, or after the repeal, of the corn laws, and possible only in a country of great wealth, dense population, and limited surface.

The English do not revolutionize like their neighbors the French; but they revolutionize; they are always at it, in their quiet way, attempting only what is possible and useful, without the destruction of the past, ushering in a better future. M.

THE AMERICAN POMOLOGICAL SOCIETY.

SIXTH SESSION.

In conformity with a resolution passed at the last meeting of this National Association, the *Sixth Session* will be held in Corinthian Hall, in the city of Rochester, New York, commencing on WEDNESDAY, the twenty-fourth day of September next, at 10 o'clock, A. M., and will continue for several days.

Among the objects of this meeting are the following: To bring together the most distinguished Pomologists of our land, and by a free interchange of experience, to collect and diffuse such researches and discoveries as have been recently made in the science of Pomology—to hear the Reports of the various State Committees and other district associations—to revise and enlarge the Society's catalogue of Fruits—to assist in determining the synonymes by which the same fruit is known in America or Europe—to ascertain the relative value of varieties in different parts of our country—what are suitable for particular localities—what new sorts give promise of being worthy of dissemination—and, especially, what are adapted to general cultivation.

The remarkable and gratifying progress which has been attained, of late years, in this branch of rural industry, is, in no small degree, attributable to the establishment and salutary influences of Horticultural and Pomological Societies. It is, therefore, desirable that every State and territory of the Union should be represented in this convention, so that the advantages resulting from this meeting may be generally and widely diffused. Held, as it will be, at a convenient point between the Eastern States and the Western, easily accessible from the South, and also from the Canadas, it is anticipated that the attendance will be larger than on any former occasion, and the beneficial results to the American farmer and gardener proportionably increased.

All Pomological, Horticultural, Agricultural and other kindred associations of the United States, and of the British Provinces, are requested to send such number of delegates as they may deem expedient; and nurserymen, and all other persons interested in the cultivation of fruit, are invited to be present, and to participate in the deliberations of the convention.

In order to increase as much as possible the utility of the occasion, and to facilitate business, members and delegates are requested to forward specimens of fruits grown in their respective districts, and esteemed worthy of notice; also, papers descriptive of their mode of cultivation—of diseases and insects injurious to vegetation—of remedies for the same, and also to communicate whatever may aid in promoting the objects of the meeting. Each contributor is requested to make out a complete list of his specimens, and present the same with his fruits, that a report of all the varieties entered may be submitted to the meeting as soon as practicable after its organization.

Packages of fruits and communications may be addressed as follows: "FOR THE AMERICAN POMOLOGICAL SOCIETY, care of W. A. REYNOLDS, Esq., Chairman Com. of Arrangements, Rochester, N. Y."

Delegations will please forward certificates of their appointment, either to the above, or to the undersigned at Boston.

Gentlemen desirous of becoming members of the Society, and of receiving its Transactions, may do so by remitting to the Treasurer, THOMAS P. JAMES, Esq., Philadelphia, Penn., the admission fee of two dollars, for *biennial*, or twenty dollars for *life* membership. MARSHALL P. WILDER, *President.*

H. W. S. CLEVELAND, *Secretary.*

Boston, Mass., March 15, 1856.

For the New England Farmer.

PEAT MUCK AND CROPS.

MR. EDITOR:—I don't know when I have been so interested as in reading a recent report of the Massachusetts Legislative Agricultural Meeting, on manures. It is a subject second to none to the farmer. On the farm that I occupy, there is a swamp containing about five acres, from which we have for the last ten years drawn from fifty to eighty loads to the yard, and by way of experiment, small quantities have been put on different parts of the farm, in a raw state, always to little or no benefit, excepting in one case. We had about one acre of cold, stiff, clay land, the mould not being over one inch in depth, upon which we put thirty loads of muck right from the swamps; plowed in the Spring, harrowed and sowed to oats, and had a good crop. In the fall, (September I think,) I plowed, harrowed, and sowed one-half bushel of Timothy; mowed it last summer and got a fair crop of hay.

We get the most profit by putting it in the yard and in the trenches in the stable; and get as good corn where we manure with muck carted from the yard, as we do from any other manure. So it makes it a matter of fact with me, that the juices of the

yard and stable, which would otherwise be lost, are the best part of the manure.

Some time in 1854, I inquired by the way of the *Farmer* as to the way of using muck—the editor kindly answered me. I could not fully carry out his directions, except in one case, and that was in the mixture of lime, at the rate of one bushel dry slaked lime to the load; this I tried, and the result was that it doubled my crop of potatoes. It was put on at the rate of thirty loads to the acre. On the remaining part of the same piece, manured with yard manure, at the rate of twenty-five loads to the acre, did not get more than half as much crop as on the part manured with muck.

Thetford, Vt., 1856. S. K. BERRY.

For the New England Farmer.

CIRCUMSTANCES ALTER CASES.

BY HENRY F. FRENCH.

An Agricultural Discussion among Legislators — Profound Views of one of them—Two Ways of learning Agriculture—A little Learning is a dangerous Thing—Use of Mathematics in Agriculture, illustrated—Science is simply the Observation of God, at Work—The Life Principle—Men of Education needed—Experiments Frustrated.

Three or four years ago there was a discussion one evening in the hall of the House of Representatives at Concord, New Hampshire, at a meeting called by the friends of agricultural progress, for the purpose of impressing the members of the General Court, if possible, with the idea that the State ought to do something in aid of the farming interest, by way of pecuniary assistance to the agricultural societies, or otherwise. One would suppose that this would be no difficult task, especially as the constitution of the State expresly provides that—"It shall be the duty of the legislators and magistrates to encourage private and public institutions, rewards and immunities for the promotion of agriculture," but as the lawyers say in their bills in chancery, "the contrary thereof is true." I well remember the argument of one highly respectable gentleman, who evidently considered it his duty to make a speech against these new notions about scientific agriculture. The fact is, said he, that there is no dependence to be put upon those men who talk about scientific agriculture and agricultural chemistry. They don't agree among themselves, and if you undertake to follow their advice, you will find no two of them to advise alike. One of them will tell you to plow in all your manure green, and another to compost it all before it is applied; one will tell you that you must put the manure into the ground a foot deep, because the best part of it rises and so escapes, while another informs us that the manure sinks, and goes off into the ground, and so we had better leave it near the surface. One chemist tells us there is nothing so good as lime for our land, and another warns us not to mix lime with our manure heaps, because it will spoil the whole. And so our worthy legislator proceeded to show up the absurdity of these new light teachers of husbandry.

Now this is not a very unusual style of argument, and it is very hard to meet. The fact is, that the man was so far off from any appreciation of the truth, that nobody could go far enough back to get round him! There are two ways of learning agriculture, as there are of learning music. The one is by rote, the other by understanding its principles. A person may learn a particular tune, perhaps as well by the former as by the latter method, but this will not help him to sing or play a new sheet of music. And so in husbandry. A man may see his grandfather and father carry on the homestead, and by treading in their footsteps, may bring about results as satisfactory as theirs, on the same farm with the same crops. But place him on a new farm, or let him undertake to raise new crops on the homestead, with no knowledge of *principles*, and nobody can tell whether the product will be Yankee Doodle or Old Hundred.

There is truth in the poet's saying

"A little learning is a dangerous thing."

A man is much safer to be literally a know-nothing in agriculture, than he is when he has got a glimpse of two or three ideas, with no sufficient knowledge to guide him in their application. Many men have a strong propensity to mathematical reasoning—to work out their propositions by the single rule of three direct. Thus, if a half-ounce of guano to the hill, will add twenty bushels of corn to the acre to my crop, how much will a quarter of a pound to the hill add to it?

Now the corn and the arithmetic will not be likely to come out, exactly alike; indeed, the corn, probably, will never *come out*, at all.

The farmer, who tried *salt* as a manure for potatoes, by putting half a pint in a hill, was probably disgusted with scientific farming forever. Had he put the same quantity into his soup for dinner, he would have had a parallel case.

We, in New England, need education in the Principles of Agriculture, to do our work properly. On the new and fertile soil of the West, only brute force is requisite to produce a crop. Cut off the timber and burn it, or break up the prairie sod and put in the seed, and the crop will come. But, the skinning process has been finished here, and we can get from the earth only what we first give it, or induce the elements to render up to its use. The temper of our good mother Earth is worn out, and she will no longer deal with us on terms, which place "the reciprocity all on one side."

We can no longer have our music by turning the crank of a hand-organ, but we must learn skilfully to touch the keys, or we shall reap only discords. The philosopher in the story, who believed that all things came by chance, and sought to make for himself a wife by mixing all the elements which enter into the composition of a human body, and

putting them into a cask, which he diligently rotated daily, till the particles should happen to come into their proper relations to each other to produce the lovely object of his desire, never succeeded, that I have heard of, in finding the lady, by that process.

A farmer, who supposes that he will chance to hit on the laws that govern the principles of vegetable production and growth, by acting on some one scientific idea that he has fallen upon, in total ignorance of every other law of nature, has scarcely less absurdity to answer for than the philosopher in search of a wife. It is much to learn the bounds of knowledge, so as not to waste our efforts on things beyond human reach. The essential *Life Principle* is beyond the grasp of human knowledge. How the dead differ from the living, He alone knows who gave life. Philosopher and chemist are both at fault here. They may analyze the dead but not the living. The vast, the Heaven-wide difference between the living and the dead no man can define. And this is equally true of vegetable, as of animal nature. The grain of corn, or the blade of grass, which we carefully examine in the laboratory, is not that which receives our care in the field—which drew up its nourishment from the soil, selecting thence the honey from the poison—which absorbed from the dew and the rain and from the sunlight even, the elements of its being, which gave it form and color and distinctive qualities. *This* is a dead plant. *That* was a *living* creature, with a soul-like instinct, which directed the germ in the sod to strive upward for light, which governed it, in its growth, in choosing from the infinity around it, those elements suitable for this and no other living thing, which made it in the midst of various others, growing so diversely side by side with it, so unlike them all and yet so unerringly true to its own type, so exactly in form and essence, to its own species, scattered far and wide over the earth.

In this view, we are tempted to say, that agricultural science must rest only on experiment. Doubtless the carefully conducted experiments, with their well-observed results, by persons competent to observe and appreciate the means used, the conditions of soil, and climate and treatment, are the most reliable and satisfactory of our guides for the future. The difficulty, however, is in having experiments thus conducted, and the results noted and compared. The chemist may, and does, accurately analyze the soil. That is dead matter. It is the same in the laboratory and in the field. He can tell you whether one soil is like another, or how they differ. He can analyze the fertilizing agents, and give you their comparative richness, in certain elements admitted to be valuable. He could have told our friend in the General Court, which of the valuable properties of manures are likely to sink into the earth, and which to escape by evaporation into the air, and what soil is most tenacious of these properties. Then we need men of education to note down and compare results when obtained.

Probably three-quarters of the experiments commenced each spring fail entirely from want of system, or knowledge, in some person on the farm. You plant some select dozen of potatoes, procured with great care and cost, and in your absence, your boy who does the chores digs them all for dinner, some day. You have a few hills of some new and valuable variety of corn, and tell your Irishman, recently imported, to cut the stalks; and before you know it, he cuts it all up at the roots, and the cows have had it for supper.

And, finally, when some experiment has been carefully watched through the whole season by yourself, personally, the crop is gathered by some enterprising "hired man" who wanted to do some surprising act of energy in your absence, and when you eagerly inquire of the results, he has them so thoroughly mixed up in his head, that he gives you the same valuable information that the woman did about the indigo; said she, "If you want to know whether it is good or not, just put a little piece in water, and if it is good, it will—either sink or swim, I declare I can't tell which!"

To illustrate the necessity of knowing enough to see both sides of a proposition, and to show how "circumstances alter cases," in farming as in everything else, I have noted several topics. Among them is the subject of the application of manures, and therein, of composting, the subject of deep plowing, and that of digging about fruit trees. On all these topics, there are different notions; arising mainly from the differences in soil and locality, which may be profitably examined with a view to reconciling or refuting them.

In a future number, having faith—though the snow lies deep around, and the glass is at zero—that seed time and harvest will not fail, I hope to discuss these matters with more minuteness.

For the New England Farmer.

MEASURE OF MILK.

Mr. Editor:—In the *Farmer* for February 16, "*" gives a problem nearly as follows:—"My milkman has lately altered his measure from beer measure to wine measure, and his price from seven to six cents per quart. I wish you or some of your correspondents would inform me which gains by this change?"

As you did not answer it, I send you the result of my ciphering, to dispose of as you think best. In Greenleaf's Arithmetic I find that a gallon beer measure contains 282 cubic inches, and a gallon wine measure 231 cubic inches.

If I have reckoned right your correspondent has to pay nearly five per cent. more for his milk now, than he did before the milkman changed measures.

Brookfield, Feb. 19. Yeoman.

Register of the Weather in Mansfield, Mass., for January, 1856.

Barometer and Thermometer attached. Sunrise.	1, P. M.	9, P. M.	ASPECT OF THE WEATHER.	Out-door Ther. in shade. Sunrise.	1, P. M.	9, P. M.	Force of Wind.	Wind.
29.55	58	80	1. Fair. Sky nearly clear.	4°	28°	4°	Light airs.	N. W.
29°	32°	31°						
29.90	87	75	2. Fine. P. M., some hazy. Evening, cloudy.	2	25	23	Do.	N.
24°	29°	33°						
29.41	20	25	3. Cloudy; little snow, 1 inch, and rain.	34	32	30	Do.	N.
38°	40°	40°						
29.62	75	91	4. Entirely clear.	12	19	0	Do.	N. W.
34°	33°	28°						
29.90	80	50	5. Cloudy; few flakes of snow.	3	12	9	Do.	N.
21°	20°	23°						
29.05	23	52	6. Cloudy, A. M.; fair, P. M.; driving snow storm last night—fell 20 inches.	10	21	0	Breezes.	N.
22°	23°	50°						
29.62	62	54	7. Fair; little hazy.	-3	28	21	Nearly calm.	N. W.
22°	27°	30°						
29.30	25		8. Part fair and part cloudy. ¾ inch snow.	25	32	4	Breezes.	S. W. and W.
36°	38°							
29.35	35	35	9. Entirely clear.	-10	1	-13	Light airs.	W. and N. W.
10°	19°	16°						
29.35	35	32	10. Clear.	9	10	7	Breezes.	S. W. and W.
14°	18°	24°						
29.53	55	70	11. Clear.	14	26	6	Do.	N. W.
30°	32°	32°						
29.80	79	71	12. Fair; P. M. hazy.	-12	28	19	Nearly calm.	N. W.
21°	29°	29°						
29.06	28.80	72	13. Cloudy; snow and rain; snow 5 inches.	32	38	32	Brisk gale.	E. and N. E.
43°	43°	52°						
28.87	94	29.02	14. Cloudy morning; little snow. P. M. partly fair.	24	30	21	Light airs.	N. and N. W.
38°	38°	38°						
29.02	03	06	15. Fair; travelling bad.	14	26	14	Breeze.	N. W.
34°	50°	34°						
29.10		03	16. Fair. Evening hazy.	1	28	18	Light airs.	S. W.
31°		36°						
28.94	90	29.00	17. Mostly cloudy; little snow—¼ inch.	22	32	28	Do.	S. W. to N.
36°	38°	40°						
29.15	20	23	18. Fair.	27	36	16	Do.	W. to N. W.
38°	44°	41°						
29.18	18	30	19. Fair; grows colder, evening.	7	40	7	Breeze.	W. to N.
32°	37°	31°						
29.36	22	10	20. Fair, some hazy.	3	19	12	Light breeze.	N.
28°	26°	30°						
29.09	08	08	21. Fair.	7	21	12	Light airs.	N.
32°	30°	30°						
29.15	16	23	22. Fair; most entirely clear.	0	20	10	Do.	N.
30°	28°	30°						
29.27	27	30	23. Entirely clear.	-4	28	12	Do.	N.
27°	32°	34°						
29.37	36	30	24. Fair. Evening some cloudy.	-7	30	21	Do.	S. W.
32°	36°	36°						
29.43	45	65	25. Entirely clear.	6	5	0	Brisk gale.	N. W.
32°	24°	25°						
29.03	57	57	26. Entirely clear.	0	22	12	Breeze.	N. W.
24°	38°	31°						
29.50	41	24	27. Morning fair, then clouds up.	-2	28	24	Nearly calm.	W.
22°	32°	36°						
29.00	28.94	29.15	28. Cloudy. A. M., little snow. P. M., fell 3 inches.	23	32	14	Breeze.	N. E.
36°	36°	30°						
29.30	29	24	29. Cloudy.	17	42	24	Nearly calm.	S. W.
34°	37°	40°						
29.10	08	10	30. Cloudy; 7½ A. M., snow begins; at 9 A. M., ceases; fell ¾ inch.	24	29	12	Breeze.	S. W. and W.
40°	40°	34°						
29.28	30	37	31. Very clear.	8	21	5	Do.	W.
30°	32°	35°						
			Mean for the month.....	9°	25½°	12½°		

REMARKS.—The first column, under the head of barometer and thermometer attached, contains the first line for the barometer, and immediately under for the thermometer attached to the barometer; both attached to each day of the month. The first observation at sunrise, or a little before; the second at 1, P. M.; the third at 9, P. M. The column under the head of out-door thermometer in shade, is also taken for sunrise, 1, P. M., and 9, P. M.

Yours, &c., ISAAC STEARNS.

☞ The attention of the reader is particularly called to an article on "Small Matters worth Knowing," by Professor Nash, in another column.

EXTRACTS AND REPLIES.

WHAT AILS MY COW?

On page 107 of the monthly for March, I find the inquiry, "what ails my cow," unsatisfactorily answered. Having been myself a keeper of cows, and having often observed precisely the same signs or symptoms of disease, I am confident I have discovered the cause; and, as an act of humanity to the dumb animals, I wish to reveal the secret. At one end of my stable is my hen roost; those cows standing near it were the ones affected most; this circumstance suggested that it might be the effect of lice; which, on examination, I found invariably true. Many are the remedies for lice. Tobacco is

effectual; but although intelligent men will roll it as a sweet morsel under their tongues, it will make a *beast* sick, and sometimes produce death.

My remedy is to rub unguintum sparingly on the parts affected, and repeat once a week, for a few times, and the cure is effected. W. N.

Pittsfield, 1856.

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GUANO FOR CORN.

MR. EDITOR:—Can I expect a good crop of corn if I use guano alone? If so, how should it be applied? How much in a hill? I tried it on a very small scale last spring, putting a small handful in the hill, and mixing it thoroughly, but the corn was all killed. As I should like to use it on a somewhat larger scale, another year, I thought it best to ask information of one who was able to give it.

Taunton, Feb., 1856. SUBSCRIBER

REMARKS.—There are nearly as many different results in the use of guano, as there are experiments. There is really no *certain* information to give you. We used it on two acres of corn, spread broadcast and harrowed, and got a good crop. Our neighbors used it and got nothing. The circumstances were not the same. Just so it is on grass crops. We find no *certainty* in its results. It is not so with barn manure, or meadow muck composts. Who ever knew them to fail? or that their application resulted in an entire loss? You must earn your knowledge experimentally—on a small scale, and with great care, and tell us by-and-bye what it is.

Poudrette is a good manure, because it is manufactured from very active fertilizers—that is, if it is made well. Excellent potatoes have been raised with guano, and in large quantities; but as many have failed with it in this crop as have succeeded. These general remarks are the best we can do for you. The truth is, we *do not know* what guano will accomplish for any body.

—

BARN ITCH IN COWS.

MR. EDITOR:—In your paper of the 26th of January, one of your subscribers makes the inquiry, "What ails my cow?" I think, from his description of the cow, she has got what we Vermonters call the *barn-itch*. My remedy is, lard and sulphur, applied to the parts diseased. Rub it in thoroughly. It is a disease prevalent in these parts, but is easily checked by applying the above remedy. In my opinion, it does not injure their milk in the least, as it is a disease of the skin. J. L.

North Springfield, Vt., 1856.

☞ Another correspondent, E. J. Bacon, Ware, Mass., also gives it the same name, and says he had seven cows afflicted with it; thinks it does not affect the milk. Remedy, rub on lamp oil.

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CARROTS FOR HORSES—HOW SHALL I TREAT SANDY LAND.

MR. EDITOR:—I see a great deal in the agricultural papers about feeding carrots to horses, but not a word about washing or cleansing them from the adhering particles of soil—quite an important item in the expense of preparation, without which, it seems to me, the horse's teeth will soon be worn out. (*a.*)

I wish to learn how to treat a piece of light, sandy, weak soil, so as, if possible, to realize something from it; stable or barnyard manure being out of the question. (*b.*)

Fairhaven, Vt., 1856. W. BRIGGS.

REMARKS.—(*a.*) Many persons never wash roots of any sort, for horses or cattle—though it is an easy matter to do so. Take a half hogshead tub and fill it half full of water, throw in the roots, and let them remain two or three hours, or over night, stir them about one minute with a sled stake, or something like it; then with the six or eight tined fork, throw them into a box and cut them with a shovel. The same water will answer for use for several days. This may be done in the root cellar.

(*b.*) Use clay, and plenty of good peat muck, on your weak, sandy land. If very sterile, after applying one or both of these, sow buckwheat and plow it under two or three times, and then you have a basis to work upon which will last for years.

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WHITEWASHING ROOFS.

MESSRS. EDITORS:—In the *Farmer* of 23d Feb. Mr. Orrin P. Allen, of Proctorsville, Vt., makes the inquiry whether whitewash would not be a good preservative for the roof of a building. In answer, I will tell him my first experiment. About twenty years ago, we built a barn, and for the want of better shingles, I used those made mostly of the sap wood of white pine; previous to laying of them, they were dipped into a large kettle of boiling hot white wash, well salted, till well soaked, and laid on to the roof after being dried. Now after nineteen or twenty years, those shingles are apparently sound and the roof tight; had they been applied without the antiseptic steep, they would probably have been rotten in five years, if they had shared the fate of those applied to some of my other buildings. The time that the shingles ought to continue in the white wash, must be decided by further experience.

Another advantage beside the preservation of shingles is the fire-proof tendency of the salt combined with the whitewash, which we all know is a damper to fire.

Wilmington, Feb., 28, 1856. S. BROWN.

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GUANO AND MUCK.

Would it be good economy for a farmer, who would get *pay* in return for the outlay, to purchase guano and mix with muck for the purpose of growing corn or other crops? and if so, how much guano should be mixed with a load of 30 bushels of muck, in order to put a shovel full to the hill.

Webster, Feb., 1856. NOVICE.

REMARKS.—Apply at the rate of 300 pounds of guano to the acre, and if the land is of a sandy nature, as much fine peat muck as you can afford. Begin by making the experiment in a small way. There are so many circumstances, of which we know nothing, in such cases, that a mere opinion would be worth but little to you.

WINTER SQUASHES.

MR. EDITOR:—I would like to be informed of the best kind of winter squash; I mean a good kind, and one that *keeps* the best.

I raise a kind they call here the marrow squash, a very good kind, and I am well satisfied with the quality, but never have been able to keep it longer than into January. E. G. CROWELL.

Canaan, Me., 1856.

REMARKS.—We have seen to-day, March 12, a fine marrow squash—to be kept long they must be placed in a dry place, above the freezing point, and where the temperature is somewhat even. The "Canada crook-neck" is a fine variety, and will keep a year.

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RED CEDAR.

Can you give me information about the Red Cedar? Where can the seed be obtained? Will it bear transplanting? C. W. S.

Wisconsin, 1856.

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TO RAISE EARLY CUCUMBERS AND TOMATOES.

Place pieces of inverted turf just beneath the surface of the soil in a hot-bed, and on these plant the seed. As soon as the time for spring frost has passed, lift out carefully the pieces of turf with the growing plants, and place them in highly manured ground where they are to complete their growth. No check is received by this removal. If there appears afterwards any probability of a night frost, cover them with boxes, or other things most convenient. If the foregoing operations have been conducted with tolerable care, cucumbers may be gathered in eight or nine weeks from the seed, and tomatoes in fifteen or sixteen weeks. Do not, ordinarily, plant anything between the hills, as lettuce, radishes and cabbages; they will be sure to make the bed too thick and close before they have got their growth. M. H. Y.

North Berwick, Me., 1856.

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PAINTING ROOFS—MEADOW MUCK.

C. E. L., *Highgate, Vt.*—An article in the last number speaks of painting roofs. Several recent numbers of the *Farmer* give the information you desire about meadow muck. See a letter on whitewashing roofs in this number.

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CHARLES S. WEBSTER, *Kennebunk, Me.*—You can obtain the Japan potato of Mr. Wm. R. Prince, Flatbush, L. I., five for five dollars. Send to this office and we will furnish the report you inquire for. Mr. Webster adds:

"I would also add my mite in testimony of cutting feed for cattle. I have tried it for two winters, and I am satisfied that I can save one-fifth of the food, or I can keep five cattle on the same feed cut that would keep five without; and this is the result of taking the papers.

We have had a cold dry winter; the snow is near three feet deep on a level in the woods, it has not settled any yet; we had a heavy fall last night, the 2d; there has been no rain since December, and the springs and wells are very low.

March, 1856."

WASHING FRUIT TREES—CAN A COW DRAW WATER FOR HERSELF.

I would like to be informed if it is best to wash fruit trees with strong soap suds, and how soon it ought to be done, and when is the best time to set out strawberry vines? I would like to be informed if a cistern holding from eighty to one hundred barrels can be so rigged as that a cow, by stepping on the platform, can raise the water herself? If it can be done, I would like to see a plan in the *Farmer*, and the probable cost, without the cistern.

Cotuit Port, 1856. D. CHILD.

REMARKS.—Wash fruit trees in April or May, with soap diluted to the thickness of good cream. We cannot answer the other question—who can?

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HOW TO MAKE BUTTER COME.

A subscriber wants to know how to make butter come.

Answer.—Scald the milk when new by setting it on the stove, or in the stove oven; if the latter, may leave the oven doors open that the milk may not burn.

ERRATUM.—In the article, "Organic and Inorganic Matter," in the monthly *Farmer* for March, 30th line from top, read *inorganic* for organic.

LADIES' DEPARTMENT.

DOMESTIC RECEIPTS.

IMPROVEMENT IN SOAP.—The wife of an American agriculturist has been experimenting in soaps, and finds that the addition of three-quarters of a pound of borax to a pound of soap, melted without boiling, makes a saving of one-half in the cost of soap, and of three-fourths the labor of washing, improves the whiteness of the fabrics, besides the usual caustic effect is thus removed, and the hands are left with a peculiar soft and silky feeling, leaving nothing more to be desired by the most ambitious washerwoman.

TO PRESERVE LARD SWEET.—Instead of putting it into large vessels, put it in stone crocks, or jars, of from one to four gallons each; when cooling or thickening, put in your salt, which will mix through the lard, instead of settling on the bottom of the crock. The next day take clean bits of cotton cloth, rather larger than the top of the vessel, and after putting it smoothly down, and pressing the edges snugly around so as to exclude all air, pack in a close layer of salt, then lay over another piece of cotton cloth, and turn over it a plate or a cover which will fit tightly; then tie over two thicknesses of paper, and set it in a cool, dry place. In this way I have kept lard perfectly sweet eighteen months. Crocks of butter should be kept in the same way.—*Cor. of Michigan Farmer.*

BEET STEAKS.—The beets, after being washed carefully, may be baked either whole like sweet potatoes, or in slices, and then served up hot with butter, pepper, &c., to the taste. There is a delicious flavor in beets cooked in this way, which is lost when they are boiled. The best sorts for this purpose, are Bassano, Waite's dwarf black, and turnip blood beet.—*Ohio Cultivator.*